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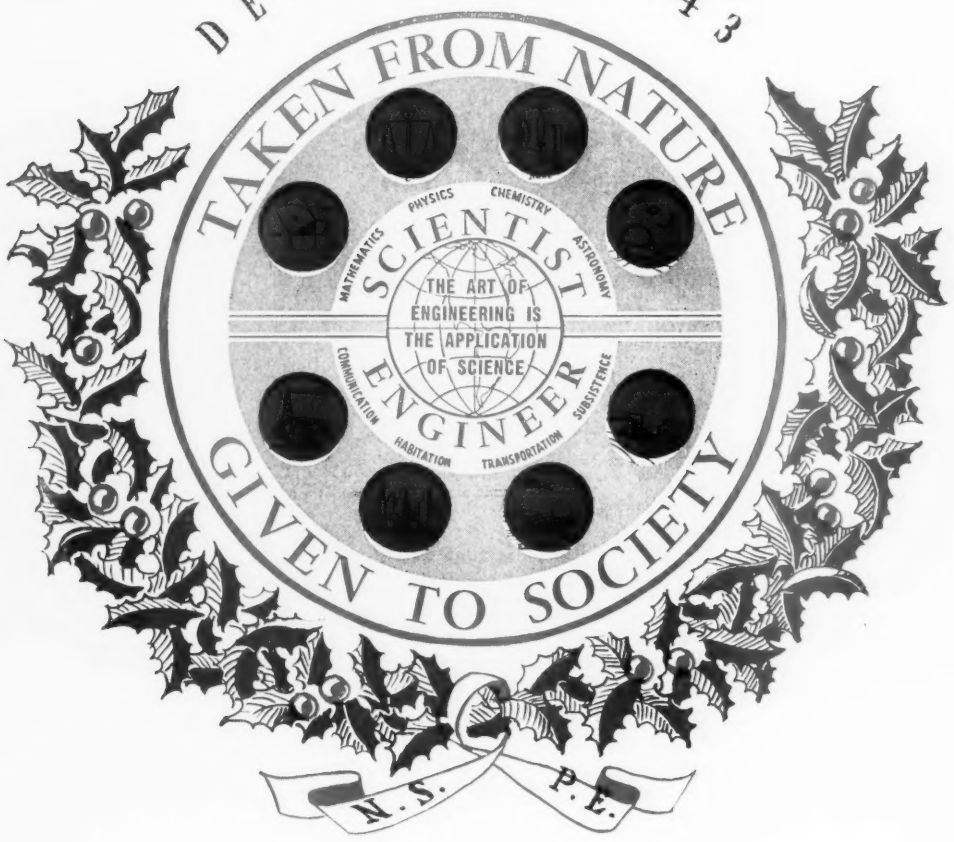

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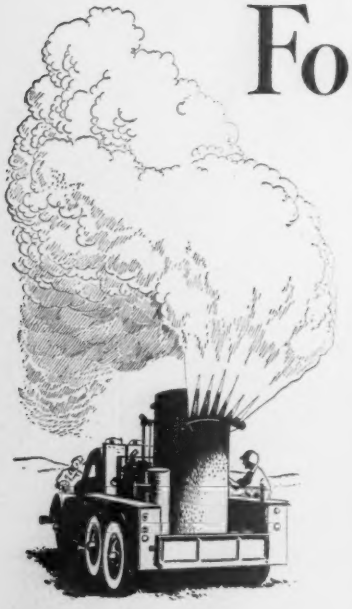
WORKS PROGRAM FOR PORTLAND, OREGON

Published by **THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**

Foothold *in a Fog*



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THE

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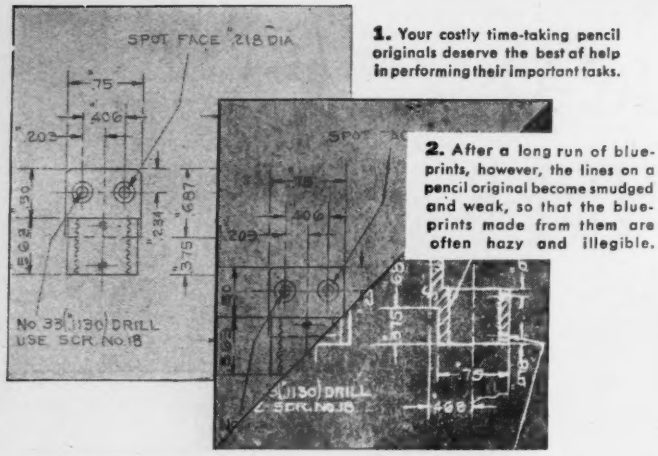

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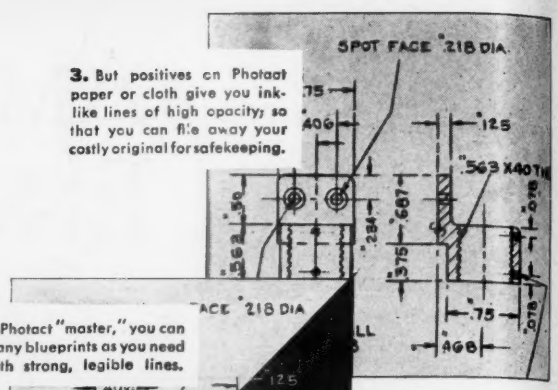

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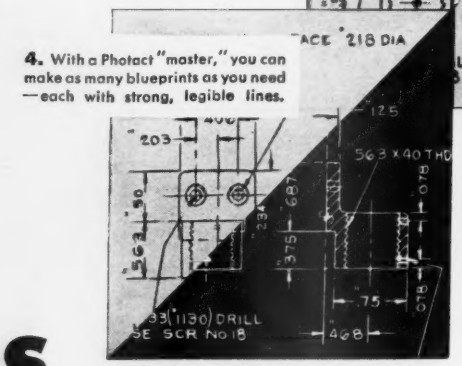

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Collective Bargaining For Engineers

AMERICAN SOCIETY OF CIVIL ENGINEERS

Authorizes Local Sections To Act

HOW IS A QUESTION.

Commenting editorially in "Civil Engineering" for November, Ezra Whitman, President of the American Society of Civil Engineers says, "At no time since its formation in 1852 has the administrative unit of the Society made such a momentous decision." He was referring to the recent adoption by the Board of Direction of a committee recommendation calling for the formation of collective bargaining groups within the several local sections of A.S.C.E. President Whitman further states, "That the Society has represented the Civil Engineering branch of the profession heretofore primarily in technological and educational matters." Both the observation and the statement of fact represented by these two quotations are significant in that they indicate a new policy and a new role for the oldest of those engineering organizations which are frequently referred to as the Founder Societies.

While the value and propriety of the proposal in question rest on individual opinion a perusal causes one to wonder whether the committee that prepared, or the Board that adopted, examined very carefully either the practicability or the possible harm involved in the application of such a plan. One also wonders what prompted A.S.C.E. to abandon its traditional role and venture hastily forth into the realm of economic barter, an undertaking for which it has never manifested an inherent inclination nor developed a form of organization suitable to the purpose envisioned. Has the opinion of the membership been adequately ascertained?

Aside from the attempt to assume a role which is more properly within the organizational and policy framework of other groups, ranging from the labor union on the one hand to the strictly professional agency on the other, the American Society manifests little regard for the professional aspirations of the engineer or for the efforts of those who have striven to set him aside as one with legal status comparable to that of lawyers and doctors. With such a goal in sight and with the machinery for affording the professional engineer and the engineer-in-training the representation that both need for social, economic or professional purposes, the American Society comes forth with a plan that would serve to destroy professional status and set up the basis for employer and employee engineering groups — something which the professional societies have striven to prevent — without affording even the promise that organized labor holds forth as a price for discarding professionalism in favor of unionism.

Professing concern for employed professional engineers, the proposal ignores the only existing basis for determining who is a professional engineer. Imagine other technical societies, whose percentage of employee-engineers is in some cases even greater than in A.S.C.E., each setting itself up as a bargaining agency, each setting forth its definition of a professional engineer and each ignoring the one influence for unity, both of profession and purpose, namely, the legislative acts of the several states wherein a legal definition already exists. True the laws in different states may not yet be uniform but they will be sufficiently so for all practical purposes if the program of The National Society of Professional Engineers is accomplished. Much progress has been made within the last few years. Support from the technical societies, not indifference and sometimes definite opposition, is the quickest means of effecting that unity, prestige and influence which the legal and medical professions possess. Even under present conditions, the laws of the several states, be they good, bad or indifferent, afford the only basis for protecting professional engineers within the said states.

The terms professional engineer and professional engineering, as defined by the several states, are ignored in the proposal despite the fact that the use of either term, as well as the practices covered by such terms, is restricted to persons licensed or registered by law. There is little doubt that in such states as Ohio, New York, New Jersey, Pennsylvania, Indiana and others, any one who disregards or violates the law can and should be prosecuted.

Perhaps the worst feature of the proposal is the cumbersome attempt to define professional engineering employees. The result appears more like a legislative proposal intended for incorporation in the Labor Relations Act than a definition of an engineer. One reads with interest that "In order that professional civil engineer employee groups be identified and segregated as such under the provisions of the Wagner Labor Relations Act, it is necessary that the professional engineer employee be clearly and precisely defined". (Elsewhere the proponents say that the proposal is not to be restricted to civil engineers, thus suggesting other definitions.) The interest becomes amazement when the clarity and definitiveness is found to be a labored phraseology of 173 words framed into a single sentence. Pity the engineer, employee, panel, board or court that would be called upon to use, explain, support or adjudicate with such definition as a criterion. Compare this attempt to define a professional engineer for the purpose of representing him with the simple statemen that he is *one legally registered as a professional engineer.* Only a few states are without laws. In such instances membership requirements of national or state professional societies provide an acceptable alternative, wherever the same might be required. There is little point in inquiring how A.S.C.E. proposes to handle the political connotations, the supplemental State Labor Acts, the status of professional persons, the representation of Engineers in Training and other considerations with the present sectional framework of the Society as a basis of organization.

Among existing engineering agencies only the National Society of Professional Engineers, together with its state and county affiliations, has the form of organization and the expressed objectives that can adequately represent professional engineers in matters of social, economic or professional concern. Other societies heretofore concerned solely with technical and scientific considerations and organized without regard for political subdivisions and their significance are being rudely awakened to this fact and are seeking, with somewhat less dignity and deliberation than has been their wont, to meet a situation for which they are poorly equipped, either by experience or inclination. Whether it be unification of engineering or service to the public and the profession in their relations with one another, NSPE already affords the opportunity and the machinery which can be applied, if, when and as the membership decides.

The proposal of the American Society presents a strange answer to the declared purpose of the Committee of Presidents and Secretaries representing the several Founder Societies who are reportedly seeking the road to professional unity.

PLANNING FOR PEACE

CAN WARS AND DEPRESSIONS BE PREVENTED

OR WILL PSYCHOLOGICAL BARRIERS PROVE INSUPERABLE

THE ENGINEER, SPECIALIZING IN THE IMPOSSIBLE SHOULD TURN HIS EFFORTS TOWARD NEW HORIZONS

PLANLESS AND LAISSEZ FAIRE PHILOSOPHIES DANGEROUS

By PROFESSOR W. E. HOWLAND

Can wars be prevented is a question that every one hopes, but few believe, can be answered in the affirmative. In this article the author calls for a determination to destroy the belief that strife is unavoidable and stresses planning against the causes of war. Our children must not again suffer for our tragic errors.

DR. WARREN E. HOWLAND
Prof. Sanitary Engineering
Purdue University
Engineer and Educator

The difficulties that stand in the way of world order or lasting peace are no doubt very great. Obviously such peace has never been attained. In this respect peace is like prosperity or the public health; pessimists can point to the past and say "Always there have been depressions and epidemics and wars. Will they not therefore continue?"

A pessimistic attitude has always found powerful expression whenever fundamental reforms or advances were in prospect. Recently at a religious meeting in Chicago, said to be the largest ever held under a roof in that city, two of the four goals for freedom set forth in the Atlantic Charter were characterized as a "cruel hoax" because "neither Scripture, nor experience, nor political expediency" indicate that they will be attained. Such pessimism overlooks the fact that the same reasoning was once applied with equal logic against the development of radio communication and airplane travel, and, for that matter, against the "new nation conceived in liberty and dedicated to the proposition that all men are created equal." Men could never fly, democracies like that could never live, and now new pessimists cry "World order is a cruel hoax — a manifest impossibility". And sad to say, such defeatist and reactionary preachment is influential with many people.

It is only when the situation is more carefully considered that hope takes hold. Think of public health for example. The writer, as a sanitary engineer, knows that health conditions now are vastly different from what they were a century ago. We know now, as we did not know then, the causative agents of many of the epidemic diseases. Using this knowledge, we have developed techniques for controlling them one by one. The historic pestilential scourges have been stopped. Yellow fever, typhoid, Asiatic cholera, bubonic plague are, in large sections of the globe, approaching the vanishing point. Yet other diseases remain; and it is entirely possible that, as a result of war or prolonged depression, vast areas of the world may not be reached by available knowledge and techniques for disease control, and epidemics may return, sweeping across the world like war, with almost complete disregard for political boundaries. In other words — the pessimists *may* be right.

Prosperity also seems more attainable now than in former times. We know from actual experience in this war that the U. S. A. has the material means to produce at the average rate of at least $5,000 per family per year, because it is now doing it. Certain engineer-economists have argued this possibility for a long time, and now the facts of actual achievement are proving them right. It appears that the last two centuries have brought about significant changes in the potential rate of providing goods. Mass production methods, the harnessing of mechanical power, and many other achievements of science and technology have raised the possible standard of living many times higher than it was before. Nevertheless, here also, the pessimists *may* be right. Psychological barriers of various kinds need still to be overcome before the demonstrated potentialities are made real for the vast majority of the people, even of a single nation.

And so with peace. Significant changes have taken place in recent times to alter the prospect. Formerly it was said that the difficulties of communication and transportation were so great as to constitute an insuperable barrier to the mutual understanding of nations. Now these particular difficulties have been entirely overcome by science and engineering. Formerly it was thought that whole nations were doomed by nature to eternal poverty unless they broke out from their desert boundaries and plundered the more prosperous countries round about. Now it appears that

most populated regions can, with the aid of science, produce something that the world needs, and international trade may bring more prosperity to any region than the most successful war could possibly yield.

And the complacency which condoned occasional wars fought by a few paid professionals, as in the middle ages, has been completely shattered, one would suppose, by the fact that modern war is *total* war; and future wars, if they occur, will be even more completely total, and therefore on this account, more destructive.

Nevertheless, despite these significant changes brought about by science and technology, psychological difficulties of tremendous importance still block the path to peace.

Yes, the pessimists *may* be right, but we are determined to prove them wrong, not by arguments, but by achievements of the most practical sort. This, I like to think, is the engineering attitude.

Let us first recognize the fact that the world has the material potentialities for the prosperity of all nations through the wise use and exchange of natural resources and manufactured goods. This condition has been brought about largely by the advance of natural science and technology. Therefore, the remaining barriers to peace are less of a material than of a psychological nature. They are customs, ideas, habits, and institutions; they are false and pernicious ideas often promoted by great newspapers; they are not (as they may seem to be) coal or gold or land or the lack of these things. Therefore, we must strive to correct the man-made misconceptions and mistakes which are at fault.

Others who have preceded, and still others who will follow, have probed or will probe these psychological barriers to peace: Selfish partisanship in national party politics, isolationism — sometimes masquerading under the more attractive name of nationalism; dollar diplomacy or imperialism, racism, defeatism, and other vestiges of feudal or even of earlier times, have or will be mentioned as ripe for correction. An engineer should not pretend to a comprehensive knowledge of these psychological diseases, but a sanitary engineer might be permitted to remind us not to be discouraged by the plagues that remain. Great progress has been attained in overcoming certain diseases of the past by competent and heroic pioneers. It is our task to combat the ones that remain.

There are two of these mental disorders that an engineer may perhaps have a right to speak about. I have already mentioned defeatism. Since the engineer, like other practical scientists, specializes in the "impossible," i.e., is continually doing things that have never been done before, his answer to deafeatism is contained in his own experience. He has found, as someone has said, that the so-called impossible tasks just take a little longer. The way to answer the man who says it can't be done is to do it.

The second disorder is isolationism, a particularly insidious delusion that did not disappear at Pearl Harbor. The engineer knows that every land is dependent upon many others for essential raw materials, critical metals, drugs like quinine, raw rubber, phosphates, petroleum and other important substances without number. Nations must cooperate in the utilization and conservation of these materials if the human race is to survive. There is also a general interdependence among the nations and races in the development of the arts and sciences of engineering. Popular sentiment ascribes a new development like the automobile to a particular inventor of their own nation or race, like Henry Ford; but the fact of the matter is that every scientific development of any importance, whether practical or otherwise, is the culmination of the work of many men of many races of many nations. It is an achievement of the human spirit rather than of a single nation or race, much less of a single man. And this is a fact notwithstanding the opinions of narrowly educated inventors, however famous, to the contrary. The really great ones like Isaac Newton have acknowledged this. He wrote, "I have stood on the shoulders of giants". No one who understands the nature and history of science, least of all an engineer, could honestly be an isolationist, or a follower of Mr. Hitler in his vicious theory of racism.

Perhaps, however, it would be more suitable for an engineer to confine his remarks to the planning part of the subject, since planning is a part of his stock in trade. What are the requirements of a good planner? I should like to mention a few of them.

First of all, he must *believe* in planning. There are people in the world who fear planning — who honestly believe that things will, if left alone, automatically work out for the best in this best (some think it the worst)-of-all-possible worlds. Therefore, they think that planlessness is a thing to be desired. Such people who are opportunists, and really believe in muddling through, can hardly be of all an engineer, could honestly be an isolationist or a expected to be successful with planning. There was a time when engineering structures were erected without plans. That was the time when many of them fell down of their own weight. But the modern engineer builds in accordance with plans. He knows that planning is not to be shunned as a mysterious "ism" of some sort; it is merely a method of doing things.

The successful planner must *understand* planning. It is the selection of appropriate means to a clearly defined, though somewhat distant end. One can not aim at an animal across the valley in such a way as to hit it if it is a wild deer, but to miss it if it happens to be a farmer's cow. He should aim to hit, or not shoot at all. Likewise, planning requires that the target or the purpose should be carefully chosen. Those who do not want to bother to find out what they are planning for, who have no convictions as to what should be striven after, should not be entrusted with the direction of planning, nor for that matter, of anything else.

The planner must be *disinterested,* in the engineering sense of the word. He can not be trusted, in fact he can not trust himself, to arrive at the best plan if he holds a patent or receives a commission on the sale of one scheme rather than of another. Planners for the safety of the country as a whole must be impelled by their dominant motives to arrive at the best plan for the country

(*Continued on page* 25)

PLANNING PUBLIC WORKS

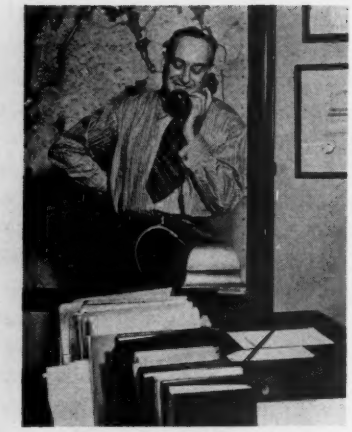
PORTLAND STUDIES PROGRAM OF ESSENTIAL IMPROVEMENTS

TO BE EXECUTED AT END OF WAR

ENVISIONS EMPLOYMENT OF 20,000 FOR TWO YEARS

REPORT CONTAINING RECOMMENDATIONS PREPARED

By HON. ROBERT MOSES



ROBERT MOSES
Always-at-Work

Through the courtesy of Commissioner Robert Moses, author of the program prepared for the City of Portland, the following has been excerpted from the comprehensive report submitted to that City. Omitting the opening paragraph and referring to those who collaborated, the report states:

It is our understanding that we were asked to come to Portland because of experience in rather large-scale public works, because some of us were identified with recent studies of congested war production areas for the Army and Navy, and others with postwar planning and employment, particularly from the point of view of public improvements, because practically all of us had been connected in one way or another with the supervision of work relief projects during the depression and had presumably learned some lessons from it, and, finally, because whatever wisdom we may have gained from such a background would not be warped by any local interest.

A quick diagnosis of this kind has, however, its decided limitations. It is as good as the diagnostician and no better. Any metaphor can be worked to death, but it is well always to keep in mind that the diagnostician is not the local family doctor or surgeon, and that he will not be around during the period of convalescence. Probably no operation will be needed. The native strength, resilience, and frame of mind of the patient will no doubt see him through. Public works are good medicine, but no panacea. The diagnostician gives his opinion and goes on his way. If he is a responsible person he is scrupulously careful about the opinion and tests it against all that he has done before, because he wants to leave something behind which will be really useful and will serve as a reliable guide to those who are responsible for determining and carrying out the program.

Portland is not the only community in the United States which will have a postwar employment problem growing out of a large increase in population due to rapidly expanded war industries. There are other cities in which the adjustments will be more complicated and some where they will be easier. Whatever the problem in this instance may prove to be, every citizen of Portland has a right to be proud of the fact that this community is prepared, while there is still time, to face the future with unclouded vision and with a determination to meet the challenge, whatever it may prove to be. The community which meets the problem early, squarely, and with no ducking, dodging and buck-passing and, on the other hand, with none of the false pride which scorns state and federal aid, will somehow find the answer. Unfortunately very few states or cities have as yet been willing to do this, and the role of the federal government is only now beginning to reach the stage of conclusive debate.

* * *

It seems originally to have been the thought of those who invited us to make this report that we could justify a works program of $100,000,000 to employ some 30,000 people in the Portland area in the eighteen months after the war. We have found that a $60,000,000 construction program, employing a varying number up to 20,000 for two years, represents all that the area can afford, all that is necessary and justifiable, and as much as in any event could be completed in this time. $15,000,000 will be required for land for this $60,000,000 construction program, thus raising the grand total to $75,000,000.

Among ivory-tower planners who will accept nothing short of a revolution in urban life, this report is bound to be disappointing because, in accordance with our instructions, we are recommending only limited public improvements in the urgent class which this community, with help from the state and federal governments, can afford to compress and expedite in order to help meet the postwar emergency.

We believe that this program can be financed without too great a strain, especially if, as is to be expected, there will be federal and in part state contributions toward construction and state and county contributions toward land. It happens that there are first-rate projects all ultimately needed on any reasonably high standards. These are projects which, with variations and modifications in detail, would be bound to be undertaken in the Portland area within the five or at most ten years follow-

Editorial Comment

The development of postwar programs of public works is presently receiving the attention of states and cities throughout the nation, despite the fact that as yet the Federal Government has furnished little other than Congressional discussion.

Among the cities which have determined to provide useful work projects as a means of insuring against mass unemployment, pending the development of peace-time industry, is Portland, Oregon.

In a report just submitted to the authorities of Portland, Robert Moses sets forth a most forthright and forceful expression of his views on the subject of planning, both general and specific.

Regardless of personal or professional opinions concerning the studies and recommendations relevant to the City of Portland, the manner in which they have been presented is worth the attention of professional engineers throughout the country, as is the courage and vision of that City.

The opinions and recommendations of Robert Moses are widely sought and his fame as a Builder is national. With a background of education that includes Yale, Oxford, Columbia and other institutions, together with a quarter of a century spent in planning, building and administering great engineering works, he is a master workman who combines the aesthetic and utilitarian to a degree seldom equalled, never excelled. One cannot call him a Master Planner. So great is his aversion to the so-called city planning technique, that reference thereto is avoided. He would probably reply in language that the censor would refuse to pass. Possessed of scholastic and public honors too numerous to mention, he is equally able to contend, whether in a drawing room or in a trench, and his foils are ever sharpened for eventualities—any style, any subject.

ing the war, and which can be telescoped into a period of about two years in order to speed up employment and recovery, if sufficiently energetic public officials, backed by leading citizens and the press, become convinced that such a program is necessary, and in any event are sufficiently impressed to do the designing and preliminary work now.

* * *

As to these recommendations, many cover ground already broken by competent local public officials, engineers and technicians. We have reviewed these projects, not invented them. Here and there we have suggested changes. If occasionally we have found it necessary to be critical it will be seen that this has occurred rarely and that we have found much more to praise than to take exception to.

* * *

Coming now to a summary of the proposed program more fully described in the consultants' report, the construction recommended may be divided into four parts.

The first part includes express arteries to be constructed by the State Highway Commission. This represents no departure from established custom in the state of Oregon, because the state has for some time assumed responsibility for arterial construction in Portland. The state has an able Highway Commission. Its executive, the State Highway Engineer, has followed highway design and construction throughout the country, knows what has been going on and has taken advantage of accomplishments elsewhere which seemed of value at home. This Commission already has plans for several major improvements in the Portland district in various stages of completion. Apparently there is no basic difference between the objectives of the State Highway Commission and the conclusions of our consultants. There are, however, differences, some of them important, in location and scope. My own feeling, looking at this part of the program in perspective, is that it is in good shape. What is required is a prompt decision on the projects still in the stage of discussion, determination of the volume of work in the Portland area and immediate concentration on grinding out detailed plans and scheduling the actual progress of contracts.

The state of Oregon has been exceptionally progressive in its attitude toward urban traffic, and the narrow rural point of view, which has governed so much highway construction in recent years in other states, has had little influence on the distribution of federal and state highway funds in Oregon. The state highway authorities have apparently kept in mind that the Portland area today has about 40% of the state population, that there are only thirty cities in the United States with a population of over 300,000 and that Portland, even in 1940 before the war expansion, ranked twenty-sixth. It is our earnest recommendation that design funds sufficient for a $20,000,000 construction program be allocated to the Portland area.

The second part of the program would consist of $20,000,000 of construction on sanitation, public buildings, port, school, sewer and other major developments. As to some of these projects, there is already local approval; others are being debated or have not as yet been analyzed. Funds are already available for designing a $10,000,000 sewage disposal system required to eliminate pollution of the Willamette River. It is possible that the federal government may before long provide funds toward design, and later for the construction, of postwar sanitation and health projects throughout the country, paralleling the federal highway program. If this should happen Portland should receive considerable assistance on its sewage disposal program, thereby reducing the cost to the locality.

As to sources of postwar construction funds, it is impossible to anticipate precisely what will happen, but some assumptions based on depression experience must be made. It seems likely that in this and other communities federal subventions, grants or contributions of as much as 50% will be made available, somewhat more than the public works grants of the depression period but less than the federal contribution to work relief. Based on highway experience, we see no reason to fear federal dictation because of the matching of funds. To what extent states as distinguished from municipalities will be called on to contribute is a matter of useless speculation until the federal attitude is more clearly defined.

The third part of the program consists of street, park, tree planting and miscellaneous work, running to a total of $12,000,000. Many miles of streets need repairinig and paving, and there is an almost complete absence of a street tree planting program although the climate is one in which trees grow quickly and in great variety. Planting of street trees on a large scale will greatly improve the general appearance of the Portland area. There is an endless amount of work to be done in the parks and playgrounds which as a whole are not worthy of the community. As to playgrounds, most of them are little more than well-maintained lots. Design of parks in many cases is inferior or nonexistent. There has been a hit-and-miss development. The present Portland Zoo is unworthy of the city and, incidentally, is not in the best possible place. Portland does not require a scientific zoological collec-

tion. What it needs is a simple, compact menagerie like the ones in Central and Prospect Parks in New York, easily accessible to the majority of citizens. After considerable searching we have recommended the acquisition of a new area which we believe is admirably suited to the purpose, provided it can be bought at a reasonable figure. If not, we recommend the reconstruction of the zoo at or near the present location in Washington Park.

Most of the street and more than half of the postwar park work should be done by contract, but a good deal of park and playground work might and some of it probably must be done by force account because of the difficulty of preparing detailed specifications for rather fussy small improvements, and the desirability of having some flexibility in the program to insure comparatively large employment of unskilled men if the emergencies require it. Various miscellaneous small projects are outlined in the consultants' report.

VIEW OF PORTLAND

The fourth part of the program consists of state work outside of the area, but within commuting distance, on which workers resident in the area would naturally be employed, including, for example, construction of the Wolf Creek and Columbia River Highways, the Wilsonville Cut-off, and the cleaning up of burned-over lands, at a construction cost with work benefit to Portland amounting to $8,000,000. Here highway planning funds are already available to the State Highway Commission.

It is apparent that design funds for somewhat more than half of the entire $60,000,000 construction program are presently available, that is for the state highway and sewer work. About $800,000 will be required immediately for the preparation of detailed specifications for the rest of the program. We recommend that bonds be authorized in this amount at the earliest possible date. A breakdown of this design fund is more fully outlined in the consultants' report.

Critics will raise the question of the cost, not only of the construction of public works, but also of upkeep. Obviously maintenance is part of the price which any community must pay for useful additions to its plant. The burden which will fall directly on the taxpayers of the community is not small but, we believe, well within their means. Let me, at the risk of repetition, make this quite clear. The program we propose does not represent mere enthusiasm for public construction. It is no substitute for private enterprise. There may be many more than 20,000 temporarily stranded and out of work in the Portland area in the trough between demobilization and business revival. To these, local public officials can at most promise real, constructive jobs to 20,000 for a limited time. This seems to us the minimum of insurance which a self-reliant community can take if it hopes to escape, or at least minimize, relief expedients.

If such a genuine works program does not materialize or proves inadequate, Portland and other congested war areas must face the threat, or perhaps implication would be a less invidious word, that the long arm of the federal government will reach out from Washington and supply by one means or another the employment which the state and its municipalities seem unable or unwilling to provide.

Make no mistake about it. This alternative is just straight work relief with home relief for those who can't work at all, in a volume and with a concentration never attempted before even in the depth of the depression, together with a tremendous expansion of social security, especially unemployment insurance and large bonuses for veterans. It is hardly necessary to say that every sane person wants to avoid a repetition of the relief system which began with the CWA in the fall of 1933 and lasted in one manifestation or another and under various alphabetical agencies for the better part of seven years. This is not to say that no worthwhile construction came out of work relief or that it was not immeasurably better than a dole or handout. It is, as a matter of fact, astonishing how much was accomplished in the areas of better relief administration, but the best of them were nothing to boast of and certainly nothing to drift into again through the same sequence of tragic indifference, hectic improvising of miscellaneous projects and boondoggling, leaf raking and desert projects where all else failed.

This program is not self-executing. We recommend that each of the bodies which ordered this report designate a representative to serve on a committee to analyze this report, determine on a program, finds ways and means of financing it as suggested by us or otherwise, expedite plans, schedule work, and generally see to it that the program is carried out. This committee should also cooperate with another committee of representative citizens appointed by the Mayor to canvass realistically every prospect of local business stimulation.

Finally, I would suggest that an entirely new name be found for the postwar public works program in the Portland district. In fact, it would be desirable all over the country to get away from anything reminiscent of work relief, which is humiliating and disheartening to all those involved, and certainly no basis for an enthusiastic return to civil life by those in the armed forces and in war industries. Unfortunately, the endless permutations and combinations in which the words "public" and "works" have been used by federal and other agencies during the depression will bring any new combination of these words

(*Continued on page* 26)

THE PROGRAM

PART I ARTERIAL SYSTEM

	Construction Cost	*Land Cost*	*Who Pays Const.*	*Land*	*Design Funds Required*
Foothill Thruway—Ross Island Bridge to Proposed Willamette Bridge	$ 4,000,000	$ 4,000,000	State & Federal	County & State	Available Federal & State
East-Side Thruway—McLoughlin Blvd. to Proposed Willamette Bridge	5,000,000	3,500,000	State & Federal	County & State	Available Federal & State
Bridge over Willamette River	6,500,000	500,000	State & Federal	County & State	Available Federal & State
Widening Ross Island Bridge	100,000	——	State & Federal	County & State	Available Federal & State
Harbor Drive and Front Ave. via Steel Bridge to East-Side Thruway	2,000,000	500,000	State & Federal	County & State	Available Federal & State
Improvement of Approaches to Hawthorne Bridge	650,000	500,000	State & Federal	County & State	Available Federal & State
East Burnside Street to Sandy Blvd.	1,000,000	500,000	State & Federal	County & State	Available Federal & State
Thirty-ninth Ave. Improvement from Sandy Blvd. to Airport	750,000	500,000	State & Federal	County & State	Available Federal & State
TOTAL	$20,000,000	$10,000,000			

PART II MAJOR MUNICIPAL IMPROVEMENTS

Sewage Disposal and Treatment System	$10,300,000	$ 50,000	City & Federal	City	Available $150,000
School Buildings and Improvements	3,800,000	300,000	School & Federal	School	School $ 65,000
Fire and Police Structures and Systems	1,650,000	150,000	City & Federal	City	City $ 70,000
Water Distribution	1,750,000	——	City & Federal	——	City $ 60,000
Airport	1,500,000	300,000	Port of Portland & Federal	Port of Portland	Port $ 30,000
Transfer Platform at Southeast Water Ave.	750,000	500,000	Dock Comm. & Federal	Dock Comm.	Dock $ 6,000
North Peninsula Improvement	250,000	200,000	Port of Portland & Federal	Port of Portland	Port
TOTAL	$20,000,000	$ 1,500,000			

PART III MUNICIPAL IMPROVEMENTS BY SMALL CONTRACT AND HIRE AND LABOR

Street Improvements and Repair	$ 4,500,000	$ 500,000	County, City & Federal	——	$ 85,000 County $ 50,000 City
Park and Playground Improvements and Street Tree Planting	6,200,000	1,000.000	City & Federal	City	$245,000 City
Civic Center Improvements	400,000	1,000,000	City & Federal	City	$ 12,000 City
Railroad and Bus Plaza and Improvements	400,000	1,000,000	City & Federal	City	$ 12,000 City
Public Buildings and Ground Repairs	500,000	——	County, City & Federal	——	$ 15,000 City
TOTAL	$12,000,000	$ 3,500,000			800,000

PART IV MAJOR PROJECTS WITHIN COMMUTING DISTANCE OF PORTLAND

	Total Const. Cost	*Work Benefit To Portland*	*Land Funds Required State*	*Design Funds*
Wolf Creek Highway	$2,000,000	$1,500,000	None	Available Federal & State
Columbia River Highway	4,750,000	3,750,000	$250,000	Available Federal & State
Wilsonville Cut-off	3,000,000	2,000,000	250,000	Available Federal & State
Cleaning burned-over lands, reforestation	1,000,000	750,000	None	Available Federal & State
TOTAL		$8,000,000	$500,000	

PART V SELF-LIQUIDATING PROJECT

Proposed Columbia River Bridge Authority

ENGINEERS ARE PEOPLE

EFFORTS TO DEVELOP SINGLE ORGANIZATION SUFFICIENTLY COMPREHENSIVE TO REPRESENT THE PROFESSION ILLUSTRATE THAT EVEN COMMON GOALS HAVE MANY PROMISED ROADS THERETO.

N. S. P. E. BEST FORM OF ORGANIZATION

By *Pres.* JAMES F. FAIRMAN

PRESIDENT JAMES F. FAIRMAN
New York State Soc. Prof. Engrs.

Analyzing the processes and thoughts incident to the establishment of organizational unity, President James F. Fairman points out the practical difficulties involved in the efforts being made to unify the several national technical societies. He pleads the cause of the National Society of Professional Engineers and urges its acceptance for leadership in professional matters.

Engineers are people. I make this assertion, not as an indictment and not as a boast, although it may well be that either attitude could be justified, but simply as a statement of fact. Engineers have certain virtues and, to be charitable, certain peculiarities, which have been variously and frequently extolled or condemned, depending upon the speaker and upon the occasion. I am not here to apologize for the engineer, to praise or to blame him, or to evangelize him. I accept him for what he is — a human being — one of the species "homo sapiens,' who may not always have attained wisdom but who at least possesses latent intellectual powers. Accordingly, in discussing certain aspects of our problems as members of a profession, I shall try, with what success remains to be seen, to make use of that latent intellect.

If you go along with me in accepting the engineer as he is, I hope that you will also go along with me in accepting certain other things as existing in fact, whether we like them or not. People instinctively try to dodge unpleasant facts and to minimize the importance of facts that run counter to their predilections and I have noticed that in dealing with their problems, and more especially with their personal problems, engineers are people. However rational and objective we may be in approaching the physical problems involved in our professional activities, we become more human and subjective, more emotional and less rational, in our approaches to problems involving human relationships, even those restricted to the field of professional relationships and professional organizations. If we will recognize that to be a fact, we can go ahead with our eyes open.

If one wished to demonstrate that engineers are normal, ordinary folks, he might well proceed by reviewing and analyzing the number and kind of organizations they have created for themselves for social, educational, recreational, mutual admirational and other purposes. The engineer, in common with all other citizens, has exercised his rights of free speech and freedom of assembly to associate himself with others of his kind for any and all purposes that seemed good to him. Whenever two or three were gathered together, a new engineering society was founded. Whenever things didn t go the way he thought they should in one organization, he recruited a few congenial rebels and they started another one. It has been a lot of fun. It has done much good. But it has had one serious disadvantage— it has made it difficult for engineers as a whole to function as a distinct professional group when that would have been in the public interest or even in the best interest of the engineers themselves. I think you will accept this as a statement of fact without demonstration.

Recognizing this situation, a number of attempts have been made and are being made to remedy it. That these efforts have not been more successful seems to me to be due primarily to the fact that engineers are people, with their individual and group ideals, aspirations and convictions, as well as their shortcomings, negligences and prejudices. If we accept this as a possible explanation of our lack of success in organizing to present a united front for the profession, we may logically ask ourselves whether by an approach calculated to minimize the encumbering effect of our human limitations we might not hasten the day when the profession would be organized for more concerted and constructive influence on public affairs, and consequently for the enhancement of the status of engineers.

If I am correctly informed, (I make this qualification because I am too young to know at first hand) there were already in vigorous existence quite a number of autonomous engineering societies at the time when it first became apparent that the profession as a whole could use to advantage some common agency to represent it and its views before the public. Further, I have the impression that it took a good deal of missionary work on the part of the relatively few members of the profession who saw the need, to convince any considerable number of their fellows of the desirability of doing something about it.

There seem to have been two principal but quite diver-

gent pioneer attempts to set up such an agency. One followed the traditional practice of organizing a new and independent society of individual members, the other tried cooperation of existing societies through a federation, an organization of societies rather than of individuals. In 1915, the American Association of Engineers was chartered "to promote the social and economic welfare of the engineer, to stimulate public service in the profession, and to encourage and develop the efficiency of the engineer." In 1920, The Federated American Engineering Societies, bettered remembered by the name of its governing body, American Engineering Council, was organized "to further the public welfare wherever technical knowledge and engineering experience are involved and to consider and act upon matters of common concern to the engineering and allied technical professions." Both of these attempts failed. American Engineering Council has been formally dissolved and The American Association of Engineers has not fulfilled the hopes and expectations of its founders. But the need still persists, the job remains to be done and recognition of this naturally leads to renewed consideration of how to organize the profession to do the job. There appear still to be the same two principal and quite divergent points of view as to the best way of going about it. One school of thought would try again the mechanism of a joint agency or federation, the other would pin their hopes on a completely independent organization. I belong to the latter group because I believe that an independent society, organized for the sole purpose of representing the whole profession as a profession before the public, is likely to do the job better than any federation or joint agency of autonomous societies possibly could.

In my line of work, and I believe it is characteristic of the objective engineering process, we place a high value on our mistakes as pointing the way to improvements. When something doesn't work right, we don't just try something else; we first find out all we can about why it didn't work. That knowledge enables us more intelligently to make changes in existing installations, or designs for new installations. Were it not so hazardous an undertaking, I would suggest that the same process might be applied advantageously to the problems of professional organization. But perhaps we may safely proceed as if neither of these organizations had ever existed and we were faced with the problem, as indeed we are, of choosing between two possible courses of action — an independent organization of individual members or a federation or other agency of existing organizations.

Before I go farther, I desire to express the hope that I may be clearly understood as having no intention of placing blame for the failures of the past on any individuals or groups, or of being destructively or unsympathetically critical. It is so difficult to discuss this problem and not be misunderstood that all too frequently there ensues an orgy of name-calling which gets us nowhere and indeed, usually sets us back a good way from sympathetic understanding. It is cold comfort to realize that this is only further evidence of the fact that engineers are people. I sincerely desire to avoid starting anything except constructive and even-tempered thinking about our problem. Further to disarm the critics, I am not attempting to give an accurate and scholarly historical account of the organization, purposes and accomplishments of engineering societies. I am merely trying to state the problem as I see it and to advance suggestions for its solution.

I am assuming, of course, that some of organization is necessary. In view of the difficulties which have been experienced and the lack of success so far attained, some one may be tempted to suggest that there may be a better, or at least an easier way. Perhaps the world is over-organized and the engineering profession would best serve the public welfare and itself by not adding to the confusion of voices. Perhaps the profession can make its contribution through the participation of its individual members, as good citizens, in the work of the many groups already organized to promote the public welfare, thereby incidentally gaining respectful recognition of the profession by the public. Such participation by individual engineers is unquestionably to be desired but can it not be made more effective by the engineers taking counsel together and if so, it would seem obvious that they must supply the means for doing that? To me, this implies organization for the purpose. But in addition to the inspiration and guidance for our individual participation as citizens in the work of other groups which may be obtained by counseling together in an organization of our own, it seems to me we would continue to be derelict in our duty as citizens if we withheld our collective opinions on public affairs when the voicing of those opinions would be in the public interest. There is ample precedent for this view in the experience of at least two of the other learned professions, the law and medicine, and I suspect that the status of these two professions in the eyes of the average citizen has been influenced quite as much by the activities of the bar and medical associations as by the activities of the individual practitioners. So, in spite of the difficulty of getting the rugged individualists in our ranks to agree on how to do it, I believe we can not wisely take the easy way and abstain from having some organization which shall be truly representative of the whole engineering profession.

It will be clear, I hope, as we proceed that my reasoning is based principally on the premise already stated, that engineers are people. It seems to me that fact has not adequately been taken into account in the past and that it may easily be overlooked in the present. People are prone to forget that no matter how good a scheme of organization may look on paper, its success in actual operation depends upon the human beings who run it. I would go so far as to state that I believe one type of organization would function as well as another, if all men were perfect.

In addition to the major premise already stated — the fact that engineers are people — there are a number of assumptions which I believe you will agree may reasonably be made and which, on reflection, you may be willing to accept as facts. These are — first, that our objectives would be the same and, second, that the type and quality of our leadership and membership should be the equivalent under

either type of organization and hence that the influence of the profession on public and professional affairs could be as effective under one type of organization as the other, in so far as it is controlled by the personnel and objectives.

These assumptions merit examination because they are essential to my approach to the solution of our problem.

First, our objectives would be the same under either plan of organization to promote their realization. This may seem axiomatic. I believe it is. We recognize the job to be done. We are not debating that. We are only weighing the pros and cons of the several ways of organizing to do it. Nor is it necessary that we take time at the moment meticulously to define our objectives in detail. We know what our broad objective is and we realize that its statement is capable of a variety of expression and emphasis. Let us not delay by debating about its phraseology. Let us recognize that in a living organization operating under a broad objective, changes of expression and of emphasis, as well as redefinition and expansion, will be necessary as the organization progresses and as conditions vary and that these modifications and revisions can and should evolve naturally. I shall not attempt to state at the moment even our broad objective to say nothing of its elaboration in detail. It is sufficient for this discussion to think of it simply as enabling ourselves to function, as an integrated profession, in the public interest. If we do not agree that it is desirable for the engineering profession so to function and if we are not willing to work to that end, there is nothing to discuss. If we agree and if we will work for that objective, it is obviously independent of the problem of appropriate and effective organization but it makes it necessary for us wisely to design an agency which will be most suitable for our purpose and most efficient in producing the desired results.

That the type and quality of the leadership and membership of the body formed to pursue a given objective should be the equivalent, if not the same, under any form of organization seems logically to follow, since it should be the worthiness of the objective, rather than the mechanism designed for its furtherance, that should arouse the interest, and enlist the support of the members of the profession. I see no reason for questioning this assumption but I can understand how it may not become a fact if we behave as people are so prone to do and permit our subjective rather than our objective processes to control our responses. If we permit the rules to be more important than the game, we shall fail. The rules should exist for the benefit of the game, not the game for the rules. Unfortunately, there are always some worthy but temperamental individuals who won't play the game unless the rules are entirely in accord with their particular prepossessions of what the rules should be. My hope is that we may be able to devise such rules as will appeal to a majority of the good sportsmen in the profession as not only being fair and reasonable but as being best suited to the orderly conduct and to the winning of the game. Our objective will suffer if we play a number of games simultaneously under a variety of rules and under the same big top. A circus is good public entertainment but it should not be our purpose to divert the public. Let us leave that to the professions more skilled in those arts.

If it is a fact that there is a really important job to be done and if it is a fact that the importance of that job will command the time and talents of the ablest minds in the profession, then it must follow that, in so far as these are factors in getting results, the accomplishments of the profession, however it might be integrated to function in the public interest, would be the same. However, I think you will agree that human experience shows that any job can be made easier, or more difficult, depending upon the methods employed. People can, and frequently do, get their affairs badly tangled by excessive concern for procedure (red tape) or by slavish adherence to tradition. Our problem, then, becomes simply one of devising the most suitable mechanism for accomplishing our purpose, taking into account the limitations imposed upon us by our human traits. Would it not seem reasonable and natural to expect better results from the same people working in a simple, streamlined type of organization having just one job to do and whose management can be more promptly responsive to the considered judgment of the rank and file of its members, than from a federation of a number of autonomous societies whose primary interests lie in a variety of fields of technical specialization?

Admittedly, a federation of existing organizations is attractive. It has one outstanding advantage in that it can immediately claim to speak for not only a representative cross-section of the profession but a substantial majority thereof. It can claim to speak for them but the fun begins when it attempts to do so. A new and independent organization, on the other hand, has a long hard struggle to sell itself to a sufficiently large and representative number of individuals before it can make and support such a claim When it does arrive at that stage, however, it has a much better chance of making good its claim of representing the combined opinion of its members.

The problems which must be solved in the setting up of a federation of autonomous societies are illustrative of the difficulties inherent in that type of organization. Even by the most objective approach, it is difficult to find answers, satisfactory to all parties concerned, to such questions as these: On what basis shall the sponsoring societies contribute to the financial support of the joint agency? What relation, if any, shall there by between the financial support and the voting strength on the governing board of the agency? What authority and responsibility shall be vested in the agency and to what extent can its determinations be binding on the sponsors? These are important questions. They must be answered in some fashion if the agency is to be established and they must stay answered to the satisfaction of all the participants if it is really to function or even to retain their support. The very real difficulties entailed in the administrative processes, coupled with the fact that the administrators are only human, are likely to result in so much attention necessarily being given to the internal politics that the purposes for which the agency was organized are likely to be considerably obscured if not

(*Continued on page* 25)

Submitted as:

ITEMS OF GENERAL INTEREST

N. S. P. E. — ANNUAL MEETING

HOTEL JEFFERSON, ST. LOUIS

December 10-11, 1943

The ninth annual meeting of The National Society of Professional Engineers will be held on Friday, December 10th and Saturday, December 11th at The Hotel Jefferson in St. Louis. While this is to be primarily a meeting of Delegates, all engineers are welcome and will be accorded the courtesy of participation in discussions.

The Program, completed as of November 15th, follows:

FRIDAY, DECEMBER 10th:

9:00 A.M. Registration

10:00 A.M. Meeting of Board of Directors N.S.P.E.
This meeting is open to all National and State Society Members.

12:00 Noon Luncheon
Address by .....

2:00 P.M. Board of Directors Meeting continued.

4:30 P.M. Meeting of Directors of Missouri Society of Professional Engineers.

7:00 P.M. Annual Dinner
Toastmaster (Selected by Missouri Society).
Greetings from Engr. Claude P. Owens, President, Missouri Society of Professional Engineers.
Response by Col. Walter L. Simpson, President, N.S.P.E.
Installation of Officers Elect 1944
Address by

HOTEL JEFFERSON
Headquarters—Society Meeting
St. Louis, Mo.

MEMORIAL PLAZA
St. Louis, Mo.

SATURDAY, DECEMBER 11th:

10:00 A.M. Conclusion of Meeting of Board of Directors, N.S.P.E.
Followed by opening session of Annual Meeting, N.S.P.E.

12:00 Noon Luncheon

2:00 P.M. Annual Meeting of N.S.P.E. continued
Reports of Officers
Reports of Committees
Resolutions
New Business
Election of Officers

4:30 P.M. Adjournment

PROFESSIONAL UNITY

Technical Societies Continue Conferences

The following, excerpted from the Mechanical Engineer of October, is interesting and perhaps encouraging. Coming from the President of A.S.M.E., as Chairman of the Joint Conference Committee of Presidents and Secretaries of the National Technical Societies, it probably summarizes prevalent opinion among the Conference members.

In one respect, the statement is most significant. It omits any reference to N.S.P.E.. but subscribes to its aims and raison d'etre. One wonders why certain national organizations profess to seek that which already exists. N.S.P.E. is the counterpart of The American Bar and Medical Associations. Is not talk of another organization of the same kind more suggestive of engineers than of other professional groups to whom the unity of the profession is a basic principle? It might not be amiss to remind the Conference Committee that the Bar and Medical groups do not consider non-licensed or non-registered persons as members of their professions.

PRESIDENT'S PAGE — MECHANICAL ENGINEER
Co-Ordination of the Engineering Profession

As a result of conversations with officers and members of the Local Sections thus far visited, I have been impressed with the interest, almost universally expressed, in the problem of co-ordination of the profession. This interest was not confined to any region or to any age levels of the groups visited. I am, however, under the impression that more interest was evinced by the younger than the older members.

Talking with Dr. Osborne, past-president of the A.I.E.E., I discovered that his experience with respect to this subject paralleled mine.

The questions most frequently asked of both of us were: "What is being done to bring about co-ordination in the engineering profession?" and, "What is our Society doing about it?"

Analyzing the interest expressed in this subject I came to the conclusion that it arose from a consciousness that the old well-defined lines of differentiation between the various segments of the profession are now somewhat hazy in many respects or, as a matter of fact, have in some instances almost disappeared. Furthermore there is a deep-rooted feeling that the profession cannot speak with authority and unity on matters of common fundamental interest as does the American Medical Association, or the Bar Association, or the Institute of Architects. Many members think that as a result of the lack of a unified front the engineering profession suffers in prestige and in broad usefulness.

I promised my interrogators that I would do something about this matter. I am now able to report to you, through this medium, that the Joint Conference Committee of Presidents and Secretaries of the A.S.C.E., A.I.M.E., A.I.Ch.E., and A.S.M.E. have appointed a committee composed of Dr. Mathewson, President of the A.I.M.E., Major Whitman, President of the A.S.C.E. and Mr. Funk, President of the A.I.E.E., chairman, to outline and define the problem and to plan, in true engineering fashion, the approaches to solutions of the problem. After the Joint Conference Committee receives this report it will ask each participating society to appoint representatives to a working committee that will work out the solutions. Probably representatives of various other segments of the engineering profession will be invited by the Joint Conference Committee also to appoint representatives on the large committee in order to have fairly complete representation of the engineering profession as a whole.

I desire to point out that alternative solutions of this important problem will not be forthcoming in a month, or in fact several months. So we must be patient and give the committee time and our full, sympathetic, and understanding support.

I am sure Mr. Funk's Committee will welcome any concrete suggestions and ideas you may have on the subject. Simply address your communications to the Secretary of the Society and they will be transmitted to Mr. Funk.

(Signed) Harold V. Coss, President, A.S.M.E.
Chairman, Joint Conference Committee
of Presidents and Secretaries

OFFICE OF ECONOMIC WARFARE

Issues Appeal for Information Concerning China

(Readers able to assist are urged to respond)

To The Presidents And Secretaries Of Member State Societies:

We have been requested by Mr. R. J. Nolan of the Office of Economic Warfare, Office of Economic Warfare Analysis, Washington, D.C., for such information as the members of our Society and other engineering societies may have concerning members who have been in China and who have information on the navigational possibilities of the inland waterways of China. Mr. Nolan states:

"We are particularly interested in the possibilities of water borne commerce on these waterways in the Provinces of Szechwan, Sinkiang, and Yunan. In this respect, we would like to know whether these waterways are now being navigated and the types of craft used in various areas, such as deep-draught and shallow-draft junks, sampans, and inflated skin rafts or bamboo rafts, or such other types of floating equipment as may be in use.

"Your cooperation with the Office of Economic Warfare in this respect is much appreciated and at this time I would like to thank you again for your past favors to the Intelligence Division."

If you know of anyone who meets these qualifications, will you please contact Mr. Nolan direct.

Sincerely yours,
EDWARD LARSON,
Executive Secretary

NAVY SEEKS OFFICERS

OFFICE OF NAVAL OFFICER PROCUREMENT
1320 G Street, N.W.
Washington, D. C.
SPECIAL PROCUREMENT BULLETIN

GENERAL INFORMATION: In general, applicants for a commission or Warrant must pass a rigid physical examination; however, in connection with the following programs, defects which are not organic in nature and which are not likely to interfere with the performance of the specified duties may be waived by the Navy Department. Applicants under thirty years of age who are physically fit for sea duty will not be considered for these programs. The age limits are not inflexible; however, those outside the age ranges must have exceptional qualifications. Except where otherwise indicated, a college degree or years of successful experience is required.

PROGRAMS

S.P. 19-42	OIL REHABILITATION	AGE 25 to 50
S.P. 33-42	AUDIA VISUAL AIDS	AGE 22 plus
S.P. 90-42	NAVAL TRANSPORTATION OFFICERS (PORT DIRECTORS)	AGE 30 to 50
S.P. 103-43	INDUSTRIAL RELATIONS OFFICERS	AGE 30 to 50
S.P. 110-43	PRODUCTION EXPEDITORS	AGE 30 to 50
S.P. 111-43	PRODUCTION ANALYSTS	AGE 19 to 50
S.P. 113-43	CARPENTERS FOR FLOATING DRYDOCKS	AGE 25 to 50
S.P. 114-43	INSPECTORS OF MACHINERY	AGE 30 to 45
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For Branch Offices see page 26

LEGISLATION

Pending in Congress

War, Taxes, Subsidies and Labor are still the main concern of Congress. Among the measures that might be of interest to some engineers are S1527 introduced by Senator Holman on November 2nd and proposing a District of Columbia Charter Commission. Referred to D. C. Committee—HR3610 introduced by Representative Rowan on November 4th and proposing program of research in Institutions of Learning re pollution of U. S. waters. Referred to Committee on Education.

RECIPROCITY AT ITS WORST

by

Watts Shelly, Executive Secy.
Michigan Board of Registration

Can you imagine the Golden Rule going hand in hand with the Slide Rule? The "do unto others, etc.," moral philosophy of long standing has acquired today legal significance. The common term applied is reciprocity. Our states have long removed their tariff barriers. Also, many have reciprocal manufacturing, selling, and transportation privileges. Reciprocity has even been extended to some professions and the national trend of Architectural and Engineers Statutes is to recognize this principle and apply it more strongly than ever.

Unfortunately, all the registration laws were not passed concurrently. Nor are they uniform. Therefore, unless the various Boards of Registration are guided more by their moral obligation to the sister state than by a strict interpretation of the law, reciprocity falls by the wayside.

All but a very few states have laws governing the practice of Architecture, Professional Engineering, and Land Surveying. They have developed considerably over the last two decades. The latet ones have extracted the strong features of existing Statutes — result, a so-called model law. Due, however, to political pressure, some states were compelled to delete much of the basic fundamentals of this law and add to it weak points instigated by strong lobbying groups. The product is a jumbled mess.

True, we have come a long way and practically all states provide for reciprocal registration, but the clause is many times meaningless because of lack of standardization. At one extreme are states that grant registration to anyone in practice when their law was enacted—at the other are those that license only by written examination. The root of evil is the "grandfather clause" inserted in two-thirds of our statutes. The only excuse for such provision is by way of protecting the constitutional rights of existing practitioners at time of enactment. Some states, however, have included a 10 to 15 year active practice period as a prerequisite equivalent to written examination. Others, under their exemption clauses go so far as to grant registration within a year after enactment to any professional engineer or architect without a showing of qualifications (other than character) or experience.

Is it no wonder then that we find many refusals instead of absolute acceptance of professional licenses granted in neighboring states?

Michigan provides for registration by written examination comparable to that given by most states. We have just completed five years of laborious exemption registration, based on 12 years active practice prior to passage of the Act. Is it reasonable to expect us to accept, by reciprocity, a registrant of another state which required him to have only two years active practice? On the other hand, we can't expect our registrants, by exemption, to be recognized in a state which registers by examination only.

Our registration law protects all Michigan practitioners alike, but that is all. We do not look upon the exemption clause as an enlargement of the scope of eligibility, but rather as a limited protective feature with mandatory recognition in this state only.

The present national exigency has caused our professional men to move from state to state, wherever the work carried them. This has meant an unusual number of interstate applications.

Although the greatest difficulty has been caused by grandfather transferees, what about future registrants by examination? Should each Board, in its own discretion, determine the applicant's ability to practice in his home state, or should it attempt to qualify him for practice elsewhere with a test integrating the inclinations and practices of 48 different systems?

No doubt, many Boards have felt the reverberations of their refusals to grant reciprocity. Let's hope that at least statutory provisions of all states become standardized before retaliation supplants reciprocity.

TOO FEW AND TOO LATE

A Fable

Once upon a time (and that time may be in the not distant future) a Young Man graduated from a College with a Degree in Engineering and, after the necessary years of Experience, was Licensed in his State as a Professional Engineer. Finding a Prospective Employer, he was asked if he held a Union Card, to which he had to reply in the Negative, because, being a Professional Man, he could not conceive membership in a Union as essential, and so he stated. Thereupon he was Informed that although his services were Desired, he could not be Employed because The Government had passed Laws which Classified him as a Laborer, and that Laborers were Organized into Unions and National Organizations until they were so Strong in Numbers that they could Dictate not only to Legislatures and to Congress what Laws should be Enacted and what Laws should not be Enacted affecting their Members.

It was suggested that he interview The Walking Boss of the Local Union, by whom he was told:—that he would have to secure a Dispensation to Permit him to Work while his Application for Membership was being Considered, the Cost of the Dispensation, in his Case being $25 which could be deducted from his weekly Pay in Installments; that his Application Fee which must accompany his Application would be $10 that during the period his Application was being Considered he would be required to pay, in Lieu of Dues, $5 per week, and, if he was Accepted, his Dues would be $10 per month as long as he Continued to be a Member of the Union.

To all of this he replied that his Fellow Students in College, who had become Doctors and Lawyers and, being also Professional Men, did not belong to any Union, to which Observation he was Reminded that both Doctors and Lawyers had a National Organization of their Own whose Strength in Purpose and Numbers was So Great that they, too, could Dictate to Legislatures and Congress what Laws should be Enacted and what Laws should Not be Enacted affecting their Members; but Professional Engineers had unwisely Segregated themselves into many Societies, Councils, Institutes, Etc., for Scientific Investigation, Research, Mutual Admiration, and Many Other Specializations that they had Weakened themselves so far as Numerical Strength was concerned, and that their Assumed Dignity and Exclusiveness had worked Against their Own Interests. So the Professional Engineer, like the Fifth Little Pig in the Nursery Rhyme, "Had to Go Crying all the Way Home."

MORAL: If you don't want to be classified, by law as a laborer, identify yourself with the *one* organization of Professional Engineers that includes *all* Professional Engineers, regardless of their specialty, and help make that organization so strong in numbers and so powerful that its influence will be great with the public and in the Legislatures and Congress halls; its voice will command attention and respect. You can help bring this about by enrolling in the nearest Chapter of the State Society of Professional Engineers, which, if you are a licensed Professional Engineer, automatically makes you a member of the National Society of Professional Engineers. *Geofrachi*

FROM PUERTO RICO

Publication Note

The October issue of Ingenieria Internacional Industria notes the following

Honor Conferred

We have received the notice of the appointment of Engineer Candelario Calor Mota, Professor of the University of Puerto Rico, as President of the new chapter of the Society of American Professional Engineers in Puerto Rico, whose head office is in the city of Washington, D. C.

Engineer Calor Mota has had a notable professional career, having worked with important American firms, such as the firm of Robinson & Steinman, and many others. At the present time, he is working in the capacity of Engineer of Structures, under the direction of the Corps of Engineers, United States Army.

Fragments from

STATE & SOCIETY ACTIVITIES

ALABAMA

Law Now Has Teeth

Through the courtesy of R. A. Polglaze, Secretary of the Alabama State Board of Registration, copies of the amended Registration Act, as approved last July, have been received. A comparison with the previous provisions indicates that the law, as it now stands, has provided various correctives for conditions that lessened the effectiveness of the legislation passed in 1935. This is particularly true of the Section dealing with firms, partnerships and corporations which henceforth will not be registered. The practice of a profession must be predicated upon individual admission to such practice.

CALIFORNIA

State Board Issues Bulletin

From the Registered Civil Engineer one learns that renewal fees have been increased from five ($5.00) to six ($6.00) dollars. To quote:

"The annual renewal fee of both civil engineers and land surveyors was increased from $5 to $6, effective May 17, 1943, pursuant to the provisions of Assembly Bills 1903 and 1904 which were passed by the last Legislature. The increase was necessitated because of the continually mounting operating costs, and the possibility that a large number of registered civil engineers and licensed land surveyors who have joined the armed forces would permit their certificates to expire.

The increase in operating expense of the board is not a result of expanded activity, but to the upward trend in salaries and material costs, which has been mounting rapidly during the last four or five years. The salaries of the board's employees have been increased slowly but steadily during the past five years, as have the salaries of all State employees. These increases are established by the Legislature, and are comparable to increases put in effect by private industry, where years of experience and advanced cost of living warrant them.

Although salary increases have been a contributing factor, other items (over which the board had no control) have been assessed by the Legislature, over a period of four or five years, which play an equal, if not a greater part, in the over-all raise in operation cost. Such items include a charge for general fiscal administration of the State, pro rata expense of maintaining the Personnel Board, annual audit expense, payment to the Attorney General for legal expense, etc. In addition, office supplies, printing, traveling, and the like have been increasing steadily. Meanwhile the board's income from annual renewals, examinations and certificate fees has been substantially the same for the past eight years.

When preparing the Biennial Budget for 1943-45 last Fall, it became evident that in view of the increased operation costs which had taken place gradually, over the past four years, and a conservative estimate that 20 per cent of the registrants of the board would be in the armed forces, and that a majority of them would allow their certificates to expire, that additional revenue must be secured if the board was to continue to function as required by law, and desired by the profession.

Another important factor that cannot be overlooked is that the Department of Finance and the Legislature will not approve a budget in excess of anticipated revenue. And also, that expenditures of the board shall not exceed the amount appropriated by the Legislature in the biennial budget, regardless of any surplus which the agency may have to its credit in the State Treasury or invested in State obligations, as is the civil engineer's surplus fund. It was imperative, therefore, that the renewal fees be increased in the same ratio as the anticipated falling-off in number of renewals if the board was to continue to function.

The problem was placed before the Legislative Committee of Engineering Organizations as early as December, 1942, and when the Legislature convened in January, 1943, the question was submitted to it in the form of Assembly Bills 1903 and 1904, which were passed by both houses, and signed by Governor Earl Warren on May 17, 1943. Both bills became effective the day they were signed."

Recent Registrants

Civil Engineers

Smith, C. U.	Camp, Fred A.
Tinney, Webb G.	Bacon, Vinton W.
Porter, O. James	Larsen, Einar
Kile, H. L.	Noel, Francis
Hveem, F. N.	Owen, Noel L., Jr.
Griffin, A. H.	Bundy, Dan E.
Reid, Keith C.	Cobb, Wm. R.
Tremper, Richard A.	Sherwood, Harold F.
Vincent, W. G.	Bateman, John Henry
Hemmert, John L.	Hemborg, Richard E.
Maddocks, F. T .	Riffe, Norman T.
Abeel, Edwin A.	Fehsenfeld, Edwin W.
Waltham, Ralph O.	Hoffmaster, Bob Neal
Reynolds, Thomas W.	Hansen, Ray C.
Balala, Ben	Ray, C. Harlan
Ervast, Frederick W.	Cessna, Mark E.
Fulton, Rex H.	Knudsen, Egon G.
McCorkie, Nathan	Dunn, Stephen M.
Wilson, F. E.	Berliner, Samuel W.
Bourke, Milton F.	Patten, E. I. Van
Dunfee, Albert M.	Wekall, Eugene E.
Ives, Thomas H.	McDuell, John W.
Long, Jack Y.	Green, Byron L.
Weers, Carl A.	Pratt, Lawrence F.
Olayos, John M., Jr.	Cowan, John G.
Russell, Robert Wm.	Langenbach, Wm. O.
Welte, B. C.	Womack, J. C.
Carter, John E.	Crayne, L. E.
Christensen, George J.	Brown, V. Melvin
Hall, Richard E.	Aitken, Frank W.
Hauck, Arthur T.	Myers, H. G.
Johanek, Alton J.	Dodge, Edgar V.
Jorgensen, Homer W.	Sarles, Frank B.
Leichtfuss, Walter A.	Evans, Don G.
Moxcey, Joseph	Good, John E.
Wanee, L. D.	Keyes, Kenneth A.
Zapf, Fritz	Sullivan, Edwin F.
Horonjeff, Robert	Carmany, Robert M.
Petersen, Leslie M.	McCarty, Henry C.
Ball, S. S.	Norton, R. R.
Brown, Morris	Murray, Douglas J.
Schuhart, Mervin A.	Swanson, Morby
Zube, Ernest	Fredericksen, Matthew
Burnson, Blair I.	Hutchison, Alex. L.
Sanders, John	Ebberts, Alfred R.
Palo, Alan U.	Grohman, Geo. Jas.

Beatty, James L.
Greene, Geo. A.
Lippincott, Emmert
Welch, Eugene A.
Cook, Frederick S.
Lowe, D. Arthur
Mock, Frederick J.
Gallagher, Walter V.
Davis, Chester R.
Warren, Hilliard
Lowden, Spencer W.
Ackerman, Adolph J.
Warmby, Edwin W.
Lovering, W. R.
Epstein, Edwin H.
Bennett, Alfred T.
Coburn, Charles L.
McKee, C. J.
Levier, Gilbert W.
Wang, Hsih-Heng
Burke, John R.
O'Neill, John P.
Whaley, Thomas E.
Bangert, Nelson R.
Baxter, F. E.
Perry, Olney W.
Watson, Paul R., Jr.
Bernat, Harry J.
Hege, William D.
Kimball, Stanley
Ray, Wendell W.
Hegy, William Z.
Hayden, Robert
Shatto, Harry H.
Sutton, A. C.
Tuck, Frank S.
Johnson, Darwin W.
Hanscom, W. A.
Parsons, Paul G.
Dodds, Ford S.

Land Surveyors

MacDonald, H. D.
Seeger, William R.
Sligar, James N., Jr.
Knowlton, C. Franklin
Gregory-Allen, F. R.
Denamn, O. N.
Olson, Oscar E.
Boen, Doyle F.
Burt, Robert C.
Siegel, Joseph
Wang, Hanley, A.
Hayler, R. Arthur
Janes, Robert L.
Senn, Charles L.
Harper, Fred C.
Robert, Dwight F.
Jorgensen, Thorleif, B.
Morrehead, T. P.
Logeman, Richard T.
Stewart, F. B.
Greeley, John W.
Funk, L. L.
Leontovich, Valerian
Richardson, R. E.
Lane, Elmer W.
Powell, G. S.
Odle, J. Richard
McKenzie, James R.
Turner, Harold
Myers, L. R.
Braden, William E.
Hardy, Paul H.
Abbott, G. S.
Coleman, Jeo J.
Houston, Douglas O.
Bliss, John C.

MISSOURI

Holds Annual Convention

The seventh annual meeting of the Missouri Society of Professional Engineers was held October 30-31 at the Hotel Governor in Jefferson City in conjunction with the Missouri Society of Architects.

According to Secretary Larson and President Elect Nold of N.S.P.E., both of whom addressed the convention, "an outstanding program of serious discussion and excellent collaboration between architects and engineers was presented." Among the subjects discussed were a Missouri Food Control Plan, War Training Program, A Citizens Postwar Construction Council, Cooperation between the Missouri Societies of Architects and Engineers (MAA-MSPE), Unionization of Engineers, The Engineer in Training and Missouri in the National Society Program.

More than 200 attended the dinner at which time the new officers were installed. Bruce Williams, President Elect of the Missouri Society delivered an eloquent and inspiring address upon his installation.

Among the resolutions adopted were the following:

Whereas, there now exists a vacancy upon the Public Service Commission in the State of Missouri; and

Whereas, the functions of this Commission are predominantly of an engineering nature; and

Whereas, no qualified engineer has been a member of this Commission since prior to 1936 and there is not at this time any qualified engineer member of the Commission; now therefore, be it

Resolved, that this convention of the Missouri Society of Professional Engineers respectfully request the Honorable Governor Donnell to appoint a registered engineer to fill the vacancy upon the Commission and that the services of this Society be offered to the Governor in any manner which he may suggest.

Whereas, the Citizens Postwar Construction Council has been organized and is now preparing a comprehensive postwar planning campaign; and

Whereas, in conjunction with such campaign, certain committees have been designated to investigate legislative, financial and other problems dealing with postwar planning; and

Whereas, the practicing engineer has been and will be confronted with legal and financial shortcomings in existing laws and financial limitations upon public work; and

Whereas, it is desirable to place officially before all committees of the Citizens Postwar Construction Council and the Municipal League the recommendations of the professional engineer; now therefore, be it

Resolved, that the Board of Directors be instructed to determine ways and means for a close cooperation of this Society and the postwar planning groups either in an advisory capacity or by representation upon committees acting for the postwar planning groups.

Whereas, it is recognized that the Missouri Society of Professional Engineers and the National Society of Professional Engineers can be of material help to each other in cooperating in the solution of mutual problems; and

Whereas, the Missouri Society of Professional Engineers has for some years been accorded privileges of affiliation with the National Society although not now fully affiliated; now therefore, be it

Resolved, that the Board of Directors be requested to make a thorough study of ways and means of accomplishing complete affiliation with the National organization and that such findings when made be transmitted to the membership for their action.

Elects Officers for 1944

At its annual meeting, held in Jefferson City on October 30-31st, the following Officers and Directors were elected to serve during the year 1944: President, Bruce Williams, Joplin, Mo.; 1st Vice-President, E. R. Schultz, Cape Giraudeau, Mo.; 2nd Vice-President, C. G. Roush, Kansas City, Mo.; 3rd Vice-President, T. J. Skinker, St. Louis, Mo.; Secretary-Treasurer, Harold J. Bruegging, Jefferson City, Mo.; Directors for 1944-45, A. R. Waters, Kansas City, Mo.; R. E. Riddle, St. Joseph, Mo.

NEW JERSEY

Society Active

Reports from Secretary Braun stresses the fact that membership and organization drives are succeeding. A new Chapter has been formed in Mercer County and President Krueger holds to his goal for 50% new membership in 1944.

Committees are working diligently and several promise interesting reports and recommendations in the near future. The Postwar Committee has promised a comprehensive and constructive presentation of facts and proposals. The Committee on Salaries and Fees is exchanging ideas with other state societies and will shortly report.

According to the advices received, the New Jersey Engineer is making excellent progress. Inquiries for space are coming in from advertisers and new members are utilizing its membership forms. From 32 pages in July to 48 in October and 64 in January is the ambitious goal set by the Committee.

Land Surveyors Meet

The Fifth Annual Conference of Land Surveyors, sponsored by the State Society, was at Rutgers University in New Brunswick on October 16th.

To quote from "Impressions of the Fifth Annual Conference" by State Secretary Braun:

Chairman Branin, Burlington County Engineer, called the Conference to order at 10:30 A.M. by introducing Parker H. Daggett, Dean of the College of Engineering, Rutgers University, who bade us a warm welcome upon the occasion of this, the second time our Land Surveyors Conference had been held at Rutgers.

Later President Krueger (C. George), of our Society and Deputy Commissioner of Labor for New Jersey, made a stirring

address of welcome on behalf of the New Jersey Society of Professional Engineers. He reiterated the great part the Land Surveyors have taken in the formation and development of the State Society.

NEW YORK

Society Fall Meeting

Approximately 150 delegates and members participated in the Fall meeting of the State Society which was held in Binghamton October 29th and 30th. Practically every part of the state and every Chapter were represented.

The Executive Board met on the evening of October 29th preceding a social gathering that lasted until well after midnight. The program for Saturday, October 30th, consisted of the meeting of delegates, together with a luncheon which was addressed by Superintendent of Public Works of the State, The Hon. Charles H. Sells, who told in a most effective, modest and entertaining manner of his experiences in Iraq and Iran as Chief Engineer of the projects that paved the way for the movement of men and materials by the allied armies presently occupying the Near East sector.

Among the reports approved and resolutions adopted were the following: Revised Constitution for New York and Tri-County Chapters; resignation of Director Hess, occasioned by appointment in the U. S. Army; the election of Leonard P. Fries, President of Broome Area Chapter to succeed Director Hess; the election of Charles W. Burke as National Director and Leland R. Post as Alternate; an appeal for better recognition by the U. S. Military Authorities of engineers services, especially in the induction of younger men; an endorsement of postwar planning with recommendation for national and state committee effort; an offer by the Society to the State Examining Board of the services of the several Chapters in the matter of investigating candidates for admission to the profession; the appointment of a special committee to investigate the financial needs of the Society and to report on the amount of dues required for increasing its effectiveness.

Discussion of municipal, state and federal legislative proposals provided varied opinions, not so much on the ends of the legislation as on the phraseology and procedures involved.

The figures provided by the Secretary's and Treasurer's reports indicated that as of October 31st one-third of the active membership had not paid complete 1943 dues.

President Fairman reported that National Secretary Edward Larson had agreed to act as umpire in the contest between Ohio and New York.

LUNCHEON CELEBRITIES
Left to Right: Frank W. Donovan, District Engineer, State Dept. Hwys.; Hon. Chas. H. Sells, Supt. Public Works State of N. Y.; Leigh E. St. John, Chief Engineer, A.G.F.A.-A.N.S. Co.; Pres. Jas. F. Fairman, N. Y. State Society Prof. Engrs.

Albany County

The October issue of the Albany Chapter News Bulletin advises that it has planned for a record attendance for the remainder of the Chapter year.

The following has been excerpted from the Bulletin:

Help Beat Ohio

The attention of all members of Albany Chapter is called to the membership race now going on between the New York State Society and the Ohio State Society. Your Membership Committee urges each member to help in obtaining new members, not only to win the race against Ohio, but to keep the Society strong and healthy as a medium through which the professional status of all engineers can be maintained at a high level during the present difficult times and in the postwar future.

It is suggested that we borrow some of the Ohio Society's ammunition in this race, namely, "Bring a new member campaign," in which *each* member takes it upon himself to secure a *new* member during the remainder of this year. Each new member will receive a copy of the 1941 and 1942 Year Books of the State Society as long as the supply lasts. An eminent member of the profession has said, "Every man who makes his living as a professional man owes something to his profession. Membership in the Society is the least he can contribute to the interests of the profession generally."

Erie County

Secretary J. J. Landers of the Erie Chapter submits the minutes of its recent meeting. To quote from the same:

Chapter Vice-President Norris Barnard announced that at the next meeting the subject of "Professional Engineers Education" covering the License Law, Past and Present, together with provision for future engineering education facilities in Buffalo will be discussed.

Gus. Karlsteen, Chairman of the Membership Committee, who has added nine new members to the Chapter Rolls was assured the assistance of the members in bringing Chapter membership up to 100 by January 1st.

President Nunan introduced the speaker, Bert Tallamy, Chief Engineer of Niagara Frontier Planning Board, whose subject was "Postwar Planning, The Buffalo River crossing; connecting thru-ways and the Proposed District Airport on Grand Island."

The speaker discussed in detail the vulnerable position of the Niagara Frontier in Postwar due to tremendous aircraft expansion and pleaded for industrial and commercial study of the problem now, with the hope that private enterprise be allowed to tackle the problem unhampered by Federal restrictions and directives. To cushion the transition from war to peace activity, Mr. Tallamy suggested a program of worthwhile Public Works. Preliminary studies are now under way to determine whether a tunnel or bridge should be constructed across the Buffalo River. The study includes the planning of a super-highway system, connecting Niagara Falls and Buffalo with the new cross-state thoroughfare and interconnecting highways to service suburban towns. Part of this plan includes the location of a huge airport on Grand Island adjacent to the main highway connecting Niagara Falls and Buffalo. The entire program was drawn by the speaker on a large map of Western New York, which clearly showed how the same was evolved. The Chapter members indicated their intense interest by many questions on the subject which were ably answered by Mr. Tallamy.

The Kilgore Bill now up for consideration in Congress was reported on unfavorably by the Committee. This makes the opinion one step nearer complete unanimity upon the part of engineers.

Bulletin Item

Postwar Planning means that industry must be geared to balanced production; controlled production may be necessary, so conserve your car, your clothes and everything else. This Chapter will enter into postwar planning in the Niagara Frontier.

December Meeting

The Chapter will hold its December Meeting in conjunction with the "War Production Conference." Vice-President N. C. Barnard will be General Chairman. Hotel Statler—December 6th, 1943—Outstanding Speaker and Panel discussion promised.

Queens Chapter

The latest available notice from Queens County is accompanied by a copy of its proposed revised Constitution and By-Laws. Quoting:

Sect. 1.—The objects of this Society shall be:

a—To promote the public interest, particularly in the County of Queens, in all matters related to the practice of professional engineering and land surveying.

b—To encourage and assist in the enforcement of laws affecting the practice of professional engineering and land surveying.

c—To obtain recognition of the engineer in professional, administrative, executive and legislative capacities, so that his qualities may be more generally understood and more widely adapted to the needs of the social structure.

d—To initiate and sanction all honorable procedure to secure benefits and compensations commensurate with the contribution made by the engineer to the welfare of society and to the safeguarding of life, health and property.

On Membership, the notice inquires:

"Did you contact your professional engineer friends who are not at present members of our Society? We are very anxious to have you sponsor their applications for membership. Use the blank which was enclosed with our Mid-Summer Bulletin. Should you need more, the Secretary has an ample supply."

Westchester Chapter

From the minutes of the October meeting of the Chapter, the following has been excerpted:

"A combined meeting of the Board of Directors and Chapter membership of the Westchester County Chapter was held October 19, 1943 in the Roger Smith Hotel, White Plains, New York.

A motion was made and carried that President Anderson appoint a committee to study Postwar Planning for Westchester County." (Sorry minutes note so little news—Ed.)

The "Chapter News" advises that the meeting was attended by forty members who heard a very interesting description of the proposed County project for Flood Control and Storm Drainage given by Engineer James C. Harding, County Commissioner of Public Works. Engineer Harding, with the aid of maps, described the drainage areas and the floods which recur periodically. He stressed the magnitude of the research and planning that will be required, and the time and financing that are involved. The urgency of the project is based on the demand for an adequate plan immediately after the war.

It was determined at the meeting that the Chapter establish a committee on postwar plans invqlving engineering, in order that the County authorities may be advised thereon. It is to be hoped that the committee will consider the possibility of establishing additional industries in some communities, where a labor supply exists. To limit the County to a residential area is economically unstable.

Concerning the amendment to the Chapter constitution covering Engineers-in-Training, a few more ballots are required for passage. Members who have not returned their ballots are urged to do so at this time.

Kings County

The Kings County "Professional Engineers Bulletin" continues to be one of the best compiled and best edited publications of its kind. From its November number, one finds that the Chapter is active in every field of professional endeavor. Collective Bargaining for engineers, interest in the activities of the National Council of State Boards of Exminers, employment opportunities and building survey nominations are among its recently publicized activities. Usually the Bulletin arrives too late for reporting monthly news to the American Engineer. This is regretted but cannot be helped as the Chapter Meetings come shortly after closing dates for publication.

OHIO

Marion Chapter

President Walter W. Graf of the Ohio Society, addressed the Chapter at its October meeting. He outlined the methods of the State Registration Board of which he is the Secretary and discussed the role of the State and National Professional Societies in promoting the status of the registered pracitioner.

WHAT HAS HAPPENED OHIO — NO NOVEMBER BULLETIN?

Just Arrived — Nov. 26

OREGON

Portland Discusses Works Program

"News of Professional Engineers of Oregon" reports that an October meeting of the Oregon Society was an interesting one. To Quote (see AO printed sheet).

One of the most controversial issues now engaging the attention of Portland's citizenry is that concerning the justification for the recent hiring of the so-called "Moses Group" from New York city to evaluate the city's present status and to prognosticate its future. On several previous occasions the growing pains of Oregon's metropolis have been thoroughly diagnosed by outside experts with findings and recommendations of somewhat questionable value, at least in the minds of many. No single group of citizens has more interest in a movement of this kind than the engineers, hence it was with extreme propriety that our fellow member, an Electrical Engineer and former president of this organization. Mr. L. T. Merwin, was chosen to present the facts in the case, before a near all time high luncheon attendance of 72.

With the realization no doubt that he was "on the spot" since it has been loudly voiced that local engineering talent could well have been given the Moses assignment, Mr. Merwin gave a most detailed, sequential and interesting summary of the many steps that preceded the final consummation of the Moses contract and the reasoning that prompted the local committee to choose as it did. After listening to his description of the details involved in the coordinated effort on the part of the local Committee for Postwar Development—of which he is vice chairman—and particularly concerning the invaluable work of Mr. Edgar Kaiser and his personal contacts in New York city and Washington, the writer will venture that the pervading sentiment seemed to be that a good job had been performed.

If the same spirit of drive and cooperation can be developed among Portland's leading interests at the close of the present war, to fulfill in part at least the anticipated recommendations of the Moses report, there can be no doubt that local engineers will profit immeasurably therefrom—such was the assurance of the speaker.

PENNSYLVANIA

Society Executive Board Notes

The last reported meeting of the Executive Board of the State Society was held at the Headquarters Office in Harrisburg on October 23rd. Board members in attendance were: Ritchie Lawrie, Jr., President and National Director; J. J. Paine. Vice-President; Hale Sutherland, Vice-President and Director Lehigh Valley Chapter; Samuel Baker, Vice-President; Russell S. Conrad, Executive Secretary; Robert Hall Craig, National Director; Hubert C. Eicher, Director Harrisburg Chapter; J. Rossa McCormick, Director. Northeast Chapter; Louis T. Klauder, Director, Philadelphia Chapter; John R. Shoffner, Director, Pittsburgh Chapter; LeRoy F. Christman, Director, Reading Chapter. Also present were: Ray M. Fuller, President, Philadelphia Chapter, for Robert V. Hudson, Vice-President and John M. Moltz, Harrisburg Chapter, Chairman State Committee Civilian Defense.

Quoting from the report of the Secretary: A letter from the Secretary of the State Registration Board for Professional Engineers advised that the Resolution adopted by the Pennsylvania

Society of Professional Engineers requesting the Board to work out a method of reciprocity with the State Registration Board of Virginia, was presented to the Board at its recent meeting. The Board replied that it cannot arrange reciprocity other than that set forth in the Act.

As a result of an invitation received from A. C. Callen, Dean of Lehigh University, President Lawrie appointed Engr. Sutherland to be the delegate representing the P.S.P.E. at a ceremony held at Lehigh University on October 18th, when there was unveiled a bronze plaque marking the site of the first hydraulics laboratory at any college in America. Engr. Sutherland reported on a very pleasant and dignified meeting and advised that the plaque was unveiled by a daughter of Prof. Merriman.

The Pittsburgh Chapter submitted a copy of its amended Constitution and By-Laws for Board approval.

Reports of Committees

ETHICS & PRACTICE: Chairman Baker reported that he had one case presented by a member of the Philadelphia Chapter who filed a complaint that he stood first on the Civil Service List but was forced to resign from his position in order that someone else farther down on the list could be given the job. Inasmuch as this Engineer had resigned the committee was powerless to act.

Legislative: Chairman Craig reported the committee had a meeting in Harrisburg August 21, 1943 and laid down general principles, as a basis for a procedure to be adopted in the preparation and presentation of new legislation to clarify and strengthen the Professional Engineering Registration Act.

MEMBERSHIP: Chairman Christman advised the membership quota for each Chapter is as follows: Erie 5; Harrisburg 12; Johnstown 7; Lehigh Valley 11; Midwestern 5; Northeast 10; Philadelphia 48; Pittsburgh 45; Reading 10. Loss of members by resignation, suspension and death during the year are to be taken into consideration in determining the results.

PUBLIC RELATIONS: Chairman Paine reported that as Chairman of the N.S.P.E. Public Relations Committee he is endeavoring to prepare a standard salary schedule plan for all State Societies.

STUDENTS & SUB-PROFESSIONAL GROUPS: Chairman Sutherland suggested that all Chapters follow the example of the Philadelphia Chapter in interesting the young engineer in registration.

RESOLUTIONS: Chairman Fuller submitted certain resolutions to the Executive Secretary and requested that they be referred to the proper committees for attention.

NOMINATING: Chairman Shoffner reported the committee met in the morning prior to the Board Meeting and nominated the following officers for the coming year: Hale Sutherland, President; J. J. Paine. Vice-President; Robert V. Hudson, Vice-President; Samuel Baker, Vice-President; Ritchie Lawries, Jr., Vice-President. The Secretary was instructed to prepare the ballots for submission to the membership.

Headquarters Comments

From all reports Pittsburgh had a very interesting joint meeting joint meeting with the Architects.

The Harrisburg Architects invited the Harrisburg Engineers to a joint meeting — 16 Harrisburg Engineers attended. It is believed that more of these meetings should be held.

By the way, I believe Hudson is going to win the bet with Paine. Last report Philadelphia had 181 and Pittsburgh 172 members paid for 1943.

W. S. McFetridge, State Director of Midwestern Chapter, was appointed Consulting Engineer of the Bessemer & Lake Erie Railroad Company on September 10, 1943. Congratulations "Bill"!

A member from Scranton sends this warning: "One more overt act by the W.L.B. and Pennsylvania will secede from the Union; apply for lend-lease and fight its own damned war A.B.C."

Does your Chapter want any pamphlets, "Why Should I Join Your Society?" Johnstown and Philadelphia are the only ones who have requested them so far.

The members of the Executive Board missed our loyal and efficient Treasurer at the last meeting but were delighted to hear that he is recovering satisfactorily from his recent illness. You can't keep a good man down.

Russell S. Conrad. Exec. Sec't'y

ANNUAL MEETING — HARRISBURG — PENN-HARRIS HOTEL

Annual Meeting Committee: Ray Fuller, Chairman; Victor Snyder, Secretary; H. H. Otto, Earl S. Fenelon.

The following were nominated for office for 1944: President, Hale Sutherland; Vice-Presidents: J. J. Paine; Robert V. Hudson; Samuel Baker; Ritchie Lawrie, Jr.

Ballots will be forwarded in due time.

JANUARY 21 AND 22, 1944

Pittsburgh Chapter

At a recent meeting, the Chapter members were somewhat shocked to learn from an attorney that the average compensation of an engineer not only exceeds that of a lawyer, but that the latter sometimes does business at a loss. This may be legally true, but it confounds common sense.

The following comments by Chairman Roswell Canfield of the Publications Committee are interesting:

For the record "The Route to Recognition" is the title of an Editorial appearing in the Engineering-News Record of September 23rd.

I had the pleasure of being present on the occasion when Mr. Fairman expressed the views referred to editorially by the Engineering-News Record, and I have before me a printed copy of "The Substance of an Address delivered at the Annual Meeting of the Pennsylvania Society of Professional Engineers at Harrisburg, Pa., January 20, 1943, by James F. Fairman, President of the New York State Society of Professional Engineers, Inc."

It is proper to say Mr. Fairman made it clear in his statements that the view expressed was a personal one, and it is appreciated the printed opinion of the Engineering-News Record is their opinion.

Are these two estimates of the use of the term "Engineer" as a title correct? Namely, first "an attempt to lift ourselves by our bootstraps", "a silly affection", second, "The Route to Recognition" of very questionable merit, here where "Use of titles goes contrary to the principles on which this Nation was founded, for the man to whom chance has brought an opportunity to become an engineer deserves no distinction over and above the man to whom that opportunity is denied."

To be very frank most of us have felt about the same as Mr. Fairman and the Engineering--News Record as a first reaction. It comes to us first when we address a stranger as "Engineer", at a Chapter Meeting and he looks down his nose, recovers himself and affably greets you.

We find very quickly that when we address this individual as Doctor, his smile is heart warming. Everything is rosy. We come to earth. Humans, "Democracy", "Rugged Individualism" and all certainly appreciate some distinctive titles. Doctor is one of them.

We are quickly told: One only obtains a Doctor's degree as the result of completing post graduate work, and it is the mark of accomplishment. We stand corrected. The gentleman has been awarded a badge of merit for one year's work, perhaps two years. We frankly acknowledge his right to the mark of accomplishment.

It occurs to me we should assert that, "Use of title goes contrary to the principles on which this Nation was founded" would be more correct if stated that, "Use of titles not based upon accomplishment goes contrary to the principles on which this Nation was founded."

We believed that when accomplishment is the basis upon which a mark or title is awarded or other recognition is given to an individual it is in essence the basic principle upon which this Nation is built rather than contrary thereto.

The fact is that the title "Engineer" is acquired only after an individual has proven to a Board set up by law that he has accomplished certain educational and experience routines set up by law as sufficient to merit the title "Engineer". The education routine covers a period of four years usually, and the experience is two years or more, and in the majority of States it is more.

This makes a total of six years at the very minimum. It would be trite to say anything about the discipline durnig this period.

It is likely that we make more ado over whether we address one another as "Mr." or "Engineer" than the thing itself merits, but it is a fact we all likely need to be reminded of, that "Engineer" is a mark of accomplishment and is a mark of a responsibility as well, regardless of whether we desire once a month to address our associates as "Engineer" or not.

TEXAS

Has Active Areas

According to Secretary Larson of N.S.P.E., who has recently returned from an extended trip, Texas Chapters are very active and thoroughly alive to present and post war problems. More than 100 members and guests attended a meeting of the Travis Chapter and 60 attended a conference in Houston, at which he was present.

Prospects are bright for a strong chapter in the San Jacinto Territory.

Society Polls Engineers

The results of the Society's attempt to ascertain viewpoints on the subjects of professionalism and unionism for engineers indicate an overwhelming desire for the professional society as against labor union affiliation.

The questions posed, together with the replies are:

In Order That The Dictates Of The Majority May Be Known And Followed, Please Answer The Following Questions And Mail To The Texas Society of Professional Engineers:

1. In your opinion is the profession of engineering a learned one in the sense of and comparable with the legal and medical professions? Yes..... No.....

2. In your opinion is there need for a state and national all-inclusive professional engineering organization, its membership made up of all registered professional engineers and organized along the lines and for similar purposes as the American Bar Association and American Medical Association? Yes..... No.....

3. Do you favor the organization of a national engineers' union formed along labor union lines? Yes..... No.....

RESULTS

Question No.	*Yes*		*No*		*No Anwers*	
1	746	(97%)	14	(2%)	5	(1%)
2	707	(92%)	7	(1%)	51	(7%)
3	69	(9%)	673	(88%)	23	(3%)

Of the 765 cards returned, 248 or 32% carried comments.

27 cards were received Oct. 8, 1943, and it is anticipated that 200 or 300 will come in during the next ten days, increasing the total returns to about 1,000.

Society Program

Program For The Texas Society of Professional Engineers

Outline

To promote economic and social welfare of Engineers in Texas, by:

1. Encouraging membership in the Texas Society of Professional Engineers, of all Professional Engineers in Texas.
2. Encouraging public and political recognition of Engineering as a profession.
3. Cooperating with the State Board of Registration for Professional Engineers.
4. Encouraging legislation favorable to and opposing legislation unfavorable to Engineers and the general welfare.
5. Encouraging favorable compensation and working conditions for Engineers, including subprofessional groups.
6. Making effective the standard code of ethics.
7. Conducting an Employment Service as conditions require.
8. Cooperating with founder engineering societies in regard to the welfare of Engineers.
9. Cooperating with other professions.
10. Encouraging the appointment of Engineers as members of civic, political and planning boards and committees.
11. Encouraging industrial development and conservation of natural and human resources of Texas.
12. Publishing a monthly news magazine.
13. Encouraging newspaper and other publicity for Engineers.
14. Encouraging the teaching of ethical and professional practices in Engineering schools.

To this end, the Texas Society of Professional Engineers will employ a full-time, paid Executive Secretary.

Society Secretary

The registration law has been operative in Texas since January 1, 1938 and many of the other objectives established have been realized; however, some not as completely as will be attained with the further growth of the Society. Five local chapters have been established, several more are needed in order that all principal centers of the state are represented. Complete cooperation between the state Board of Registration and the Society has been maintained, assistance having been given by the Society in furnishing needed data on matters to be handled by the Board and aiding in curbing violations of the Registration Act. Committees have been active on public relations and legislative matters. A salary and fee schedule was drafted and accepted by the Society. In an effort to provide counsel and guidance for prospective engineers, the Society has established a Junior Membership. A considerable number of young prospective engineers have joined. Eligibility requires graduation from an engineering school accredited by the Registration Board.

Another and important objective attained is the publication of an official magazine. This magazine. Texas Professional Engineer, is in its second year.

Feeling that the Society is well established on a secure background of several years of activities and realizing that the attainment of all of the aims and objectives originally established can only be fully accomplished by a concerted effort, the employment of a full time paid Executive Secretary is the next order of business for the Society.

The Board of Directors recently approved an annual budget of $12,000. Funds for this budget, required to supplement present income, are being raised by subscription from the membership. Considering the potential membership of the State Society, it is feasible that one year's operation on this basis will place the Society in position to finance the proposed budget in the future.

A drive for subscriptions to the Secretary Fund has been started throughout the State. A considerable part of the money called for in the budget has been subscribed with every indication that the needed funds will be available before the end of the year.

WISCONSIN

Prepares for National Affiliation

So concise, as well as complete, is the report and recommendations of the Wisconsin Professional Engineers Committee, which early this year was requested to prepare the necessary instruments for the organization of a state professional society, that neither interpretation nor synopsis is required or justified. The American Engineer expresses its appreciation for the courtesy extended by the Committee and its Chairman, Lawrence E. Peterson of Milwaukee.

WISCONSIN PROFESSIONAL ENGINEERS' COMMITTEE REPORT

October 9, 1943

To The Registered Engineers of Wisconsin:

For several decades the Engineering profession, through various National Committees, has attempted to create an organization through which the Engineering profession could contribute its share to the solution of our national and state economic and social problems, to guide the profession in its dealings with the public, and to safeguard the interest of engineers. Engineers in Wisconsin thought this aim might be attained by the formation of an organization of the registered professional engineers of the state with possible national affiliation. Early this year they called a meeting at Milwaukee of all Wisconsin's registered engineers. This meeting, which was attended by eighty men from many

parts of the state, authorized the appointment of the undersigned committee to determine the desirability of a state society of professional engineers. This committee was further charged with the duty of submitting a proper Constitution and By-Laws if such a society appeared to be needed.

The committee has held many meetings since April 22nd and consulted many individual engineers in industry, public and private employment, and education, as well as the Executive Board of the Engineering Society of Wisconsin. As a result, we now submit as the joint recommendation of this committee and the Executive Board of the Engineering Society of Wisconsin that a society be formed having the objectives, Constitution, and By-Laws transmitted herewith.

It was desired that this society represent equally engineers in industry, private employment, public employment. and education, and it is therefore recommended that the administration of the society be so distributed.

The name of the proposed society is to be "Wisconsin Society of Professional Engineers," and the organization will come into existence on January 1, 1944.

A membership application blank is enclosed which should be completed and promptly returned to the committee by those who wish to become charter members. Engineers whose applications are received by January 1, 1944, will be listed as charter members.

The Executive Board of the Engineering Society of Wisconsin is submitting this Constitution and By-Laws to the members of that Society with recommendation for adoption, effective January 1, 1944. Such members become charter members without application in accordance with Article III of the By-Laws.

Ballots for the election of the first administrative officers and directors will be circulated by the nominating committee as provided in Article X of the By-Laws to all engineers whose applications for membersship have been received by December 1, 1943, and to all members of the Engineering Society of Wisconsin in good standing.

Respectfully submitted,

Wisconsin Professional Engineers' Committee; Lawrence E. Peterson, Milwaukee, Chairman; William J. Urban, Milwaukee, Secretary; Archie E. Becher, Wausau; William B. Crawford, Milwaukee; Hans P. Dahlstrand, West Allis; Ben G. Elliott, Madison; Henry J. Hunt, Madison; George W. Martin, Green Bay.

CONSTITUTION
of the
WISCONSIN SOCIETY OF PROFESSIONAL ENGINEERS

Preamble

Recognizing that service to Society, to State, and to Profession is the premise upon which individual opportunity must be built, the Wisconsin Society of Professional Engineers does hereby dedicate itself to the promotion and protection of the Profession of Engineering as a social and economic influence vital to the affairs of men and of the community.

Article I — Name

SECTION 1. The name of this Society shall be "Wisconsin Society of Professional Engineers." hereinafter called the Society.

SECTION 2. This Society shall be incorporated as a non-profit organization under the laws of the State of Wisconsin.

SECTION 3. This Society shall be a member state society of a national association of state societies of Professional Engineers having objectives in substantial agreement with those of this Society.

Article II — Objects

SECTION 1. The objects of the Society shall be the advancement of the public welfare and the professional, social, and economic interests of the Professional Engineer by promotion of education, legislation, and public relations through the establishment and maintenance of high ethical standards and practice.

Article III — Membership

SECTION 1. Any person registered as a Professional Engineer in the State of Wisconsin shall be eligible to membership in this Society and may become a member upon appropriate application and agreement to comply with the rules and regulations of the Society excepting that a member of the Engineering Society of Wisconsin in good standing at the time of adoption of this constitution need not file a new application. After January 1, 1945, no person shall be continued as a member unless registered as a Professional Engineer in the State of Wisconsin. Applications for membership shall be approved by a majority of the Board of Direction through letter ballot. Applications shall be accompanied by the admission fee and dues.

SECTION 2. Should the registration of any member lapse or be revoked for any reason, said person shall automatically cease to be a member of the Society.

SECTION 3. Only members whose dues are currently paid shall be eligible to vote in the Society. If the dues of any member remain unpaid after the close of the fiscal year, said member shall forfeit his membership in the Society. The request of such person for re-admission must be accompanied by dues in full for the year at the close of which the member was dropped. as well as dues for the current year.

Article IV — Dues

SECTION 1. The admission fee and dues of the Society shall be determined by the Board of Direction and be indicated in the By-Laws. The admission fee shall not exceed five dollars. The annual dues shall not be less than ten nor more than twenty dollars, which shall include dues to a national association of state societies of Professional Engineers.

SECTION 2. The fiscal year of the Society shall be the calendar year.

* * *

Article VII — Headquarters

SECTION 1. Headquarters of this Society shall be in the City of Madison, Wisconsin.

* * *

Article XIV — Effective Date

SECTION 1. This Constitution shall become effective on January 1, 1944, and shall replace all former constitutions of the Engineering Society of Wisconsin.

BY-LAWS
of the
WISCONSIN SOCIETY OF PROFESSIONAL ENGINEERS

Article I — National Affiliation

SECTION 1. This Society shall become affiliated with the National Society of Professional Engineers.

Article II — Dues

SECTION 1. Dues for members shall be Ten Dollars ($10.00) per year. Members elected after February 15 of any fiscal year shall pay dues for the unexpired portion of the year as follows:

If elected between February 16 and May 15	$7.50
If elected between May 16 and August 15	5.00
If elected between August 16 and November 15	2.50

SECTION 2. Annual dues are payable in advance upon receipt of bills dated the beginning of each fiscal year.

SECTION 3. The admission fee to accompany an application for membership shall be Three Dollars ($3.00).

SECTION 4. The Treasurer of the Society shall transmit the current dues of Four Dollars ($4.00) for each member to the National Society of Professional Engineers at the end of the month during which the member's annual dues were paid to the Society, or a proportionate amount for each new member. Dues transmitted to the National Society shall include the cost of the subscription to the "American Engineer."

Article III — Charter Members

SECTION 1. Charter Members of the Society shall be those professional engineers registered in the State of Wisconsin whose applications for membership are received before January 1, 1944, and members of the Engineering Society of Wisconsin in good standing on said date who are Registered Engineers or become so qualified before January 1, 1945; provided. however, that charter membership is contingent upon payment of the first year's dues before the close of the fiscal year.

Article IV — Directors

SECTION 1. There shall be four directors elected to the Board of Direction. Initially two shall be elected for a term of two years, and two for a term of one year.

Engineers Are People

(*Continued from page* 14)

entirely forgotten. Moreover, the time and effort spent in oiling and operating such cumbersome administrative machinery contribute nothing directly to the realization of the objectives for which the agency was created. I submit that such joint activities are inherently inefficient and uneconomical characterizations which, if true, should make them anathema to us as engineers. Worst of all, the results are discouraging and may give rise to understandable, though undesirable, cynicism and indifference in the ranks of the profession.

It is generally recognized that an individual is most effective when he is working at a job he likes. In spite of our conventional protestations, we don't do very many things we don't really enjoy doing in the way of voluntary service in a membership organization. If an organization is set up to do just one type of job, the chances are pretty good that the people who will be chosen as its leaders are those who are interested in that job. On the other hand, if each of the autonomous societies in a federation have a number of different projects in hand, their chosen leaders just naturally won't be equally interested in all of them and will unconsciously favor some project at the expense of the others. Moreover, it is unlikely that all these leaders will be equally competent in the two fields of activity, the broad field of the public welfare and the narrower field of specialized technical interest. Conceivably, some of the leaders of one or more of the member societies in the federation may be in sincere opposition to the project, which is sponsored jointly with the other societies. When this occurs, that enterprise necessarily suffers. In any event, there can't be much doubt that concentration on one objective will produce quicker results as to that objective than can be had when the same people must divide their attention among several projects.

Another serious handicap of a joint agency seems to me to lie in its remoteness from the individual. If he knows of the existence of the project, which experience seems to indicate is questionable, he is inclined to feel that it is something about which he need not be concerned. It is probably in good hands and anyway there is no easily accessible channel through which his individual voice could be heard. It follows naturally that he proceeds to forget the whole matter but subsequently under appropriate provocative stimuli may growl about the dereliction of the management of his society in not taking care of these same problems. Also, I suspect that the management, being human and not being under continuous pressure from the members, does relax.

Chronic indifference or intertia seems to be characteristic of the rank and file of all human society. It is difficult to keep people interested in causes or objectives, however worthy or however intimately related even to their own personal welfare. But isn't it easier to be indifferent about something organized in such a fashion that one can have very little if any direct personal relationship to it?

Someone will ask—as many have—why don't all the engineering societies unite and form one organization? The best answer I know to that question is that the millennium hasn't arrived and when it does, there will be no need of any organization of engineers or of any group. Human beings will be just one big happy family. In the meantime, greater unity of the profession does not necessarily require organic union of or cooperative endeavor by the existing organizations of engineers but it does require organization. This organization should be completely independent of the technical engineering societies but need not and should not be competitive with them in activities or for members. There is definite need and plenty of room for those societies whose primary interests lie in the several fields of technical specialization. Each of us in active practice needs membership in one or more of those societies but each of us should also be interested in a society which can represent the profession as a whole on public and professional matters.

Fortunately, we don't have to start from scratch. Such an organization, the National Society of Professional Engineers, is already in existence and is steadily growing in strength and in influence. It is not perfect. No organization conceived by human beings ever has been or ever will be perfect. But it is structurally simple and sound and it is aimed in the right direction. By giving it our support and guidance, we can build it into a great instrument for the public welfare. By continuing to talk rather than act, we can let it remain just another engineering society. Which shall we do?

Planning For Peace

(*Continued from page* 7)

as a whole and not for some special industrial or financial group or geographical section, whose interest might run counter to that of the whole.

Finally, the planner must be *competent.* He must have a good head and good training, including that of experience. It is sometimes difficult to find a man who meets all of these qualifications. The best brains are often in the employ of special interests and under the influence of the philosophy of planlessness, sometimes called laissez faire. For this reason I would suggest that the best planners are most likely to be found among the recognized professions who have been trained to plan for the good of the greatest number of people.

Translating these engineering specifications into terms more appropriate for the selection of statesmen and diplomats who are to make the plans for peace, I would say that they must, first of all, *believe* in some form of world organization and must be willing to work with others in formulating a definite plan to bring a clearly defined world order into being. They must be genuine humanitarians, as were the founders of our own country, and not dominated by lesser loyalties to particular classes or races or economic groups. And, finally, they must be truly competent. They must be *as* competent and *as* experienced in diplomacy as are the exponents of other philosophies with whom they are matching wits. The men who founded our country were not of average brains. They were our best in talent and in training.

This engineer pleads not, as was done after the last war, for a return to normalcy in diplomacy, but rather for a return to the majesty of vision and consummate skill of a Thomas Jefferson and a Benjamin Franklin, of the glorious days of our national youth. They were intellectuals, they were scientifically minded, they believed in planning, and they were disinterested, in the engineering sense of the word; that is to say, they had the genuine interest of all the people uppermost in their hearts. We average men must select such *best* minds of our day to do the planning if lasting peace is to be attained.

In conclusion may I speak not any longer from the special standpoint of an engineer which I have assumed, but simply as a human being? What kind of a world do we want to have after this terrible war is over? One in which our children who survive may live a good and happy life. For us it doesn't matter so much; perhaps we who have allowed ourselves to be misled by the lure of selfishness and the contempt of our fellow men, which screams from every page and cartoon of certain newspapers we still foolishly buy, perhaps we deserve no better life than this one. But they, our children, in whom are all our hopes, and who are now heroically paying for our mistakes, deserve to have a better world to live in — a world of life, liberty and happiness of which our fathers dreamed. They must not again be plagued and haunted with the fears and frustrations and horrors of war and of the anarchy that leads to war. We have thought that to be happy we must be rich. We have thought that to be rich we must compete with all other nations or go our way alone and let the rest of the world go hang. We know now that to be happy is not to be rich and, in any case, if the world hangs, we hang with it. Ours must be not only a "decent respect for the opinion" but also for the union of "mankind." Our children must not again suffer for these, our tragic errors. For their sake and for the sake of their children, on whom they will pin all their hopes, we must find an end to war. The whole human family is in this together. All but the darkest shades of political and economic and religious opinion must unite in this one cause: World Order — to make possible the fulfillment of the fondest hopes of every single soul for those whom they love best.

MAIN OFFICES OF NAVAL OFFICER PROCUREMENT

ATLANTA 1, GA.	P. O. Box 1364
BOSTON 14, MASS.	150 Causeway Street
CHICAGO 4, ILL.	Board of Trade Bldg., 141 W. Jackson Blvd.
LOS ANGELES 13, CAL.	Title Guar. & Tr. Co. Bldg., 411 W. 5th St.
NEW ORLEANS 12, LA.	Louisiana Building, 217-227 Camp Street
NEW YORK 5, N. Y.	33 Pine Street
PHILADELPHIA 7, PA.	17th Fl., Widener Bldg., Juniper and Chestnut Sts.
RICHMOND 19, VA.	5th and Cary Streets
SAN FRANCISCO 3, CAL.	703 Market Street
SEATTLE 4, WASH.	117 Marion Street
WASHINGTON 25 D. C.	1320 G Street, N.W.

BRANCH OFFICES OF NAVAL OFFICER PROCUREMENT

BALTIMORE 1, MD.	Richmond Market Armory, No. Howard St.
BIRMINGHAM 3, ALA.	601-609 Jackson Building
CHARLESTON 1 W. VA.	Kanawha Hotel Building
CINCINNATI 2, OHIO	9th Floor, Enquirer Building, 617 Vine St.
CLEVELAND 13, OHIO	6th Fl., Marshall Bldg., 200 Superior Ave.
COLUMBIA 19, S. C.	University of South Carolina
DALLAS 1, TEX.	1530 Allen Building
DES MOINES 9, IOWA	208-218 Old Federal Building, Fifth and Court Streets
DETROIT 26, MICH.	9th Fl., Book Bldg., 1249 Washington Blvd.
HOUSTON 2, TEX.	824 Niels-Esperson Building
JACKSONVILLE 1, FLA.	915 Lynch Building
KANSAS CITY 6, MO.	202 Finance Building, 1009 Baltimore Ave.
KNOXVILLE, TENN.	Room 326, New Post Office Building
MEMPHIS 3, TENN.	1212 Sterick Building
MIAMI 32, FLA.	Room 905, Langford Building, 121 S.E. First Street
MILWAUKEE 2, WIS.	110 E. Wisconsin Avenue
MINNEAPOLIS 2, MINN.	1645 Northwestern Bank Bldg.
OKLA. CITY 2, OKLA.	805 APCO Tower
PITTSBURGH 22, PA.	Keystone Hotel Building, Third Avenue & Wood Street
PORTLAND 5, ORE.	1233 American Bank Building
RALEIGH, N. C.	203 Capital Club Building
ROCHESTER 4, N. Y.	Genesee Valley Trust Building
SAN DIEGO 1, CAL.	Bank of America Building, 615 Broadway Street
ST. LOUIS 3, MO.	6th Floor, Missouri Pacific Building, 210 North 13th St.

Bonds are essential

"It is clear that when the bond requirement is waived, labor and material men, as well as the Government, lose a form of protection which they have enjoyed for almost half a century."

From an article entitled:

"Restoration of Bond Requirements Will Aid War Effort" by Edward H. Cushman of the Philadelphia and District of Columbia Bars, appearing in "Credit and Financial Management" for April, 1943—*A reprint in pamphlet form will be mailed without cost on request to*

INVISIBLE ARMOR

NATIONAL SURETY CORPORATION

VINCENT CULLEN, *President*

4 ALBANY STREET, NEW YORK

PLANNING PUBLIC WORKS

(*Continued from page* 10)

into disrepute. We ought to invent something which spells unified effort to improve the community, something which will arouse enthusiasm, something with which the worker will be proud to be connected. At the moment, I can think of nothing better than the words "Portland Improvement".

Our visit has been a unique experience, and we acknowledge a real debt to those who received us so cordially and freely opened their minds as well as their files for our instruction. We have enjoyed greatly the opportunity to compare notes and swap experiences with those who after all have the same objective—a better America after the war.

☆

Will YOU sponsor one government advertisement during the six months in the American Engineer?

The American Engineer is anxious to cooperate with the government in increasing the number of sponsored government advertisements during the next six important months. Preference will be given advertisers of these sponsored advertisements, also a special rate. Full information will be supplied on request.

WHAT'S NEW

And Coming In The Whirl of Change

(News from industry — gathered by the publisher)

VALUE OF CAST CRANKSHAFTS IN ENGINE CONSTRUCTION VERIFIED BY COOPER-BESSEMER TESTS

Vast savings in labor and critical material as a result of Cooper-Bessemer's exhaustive tests and investigations in the development of cast Meehanite crankshafts for large engines have been hailed by war production experts as one of the most important wartime advancements in the engine building industry.

Some interesting details of the progress made during the past nine years of their intensive crankshaft research program were revealed by officials of The Cooper-Bessemer Corporation. whose plants at Mount Vernon, Ohio and Grove City, Pa. are turning out Diesel and gas engines, compressors, and foundry castings in unprecedented volume for the war effort.

A comparison of the methods and materials used to produce heavy-duty crankshafts brought out the unusual savings possibilities that can be effected in modern casting procedures over so-called conventional methods. In a type LS Cooper-Bessemer 8 cylinder marine Diesel engine, for example, the steel ingot from which the crankshaft is block-forged weighs 36,000 pounds, but the completed shaft weighs only 12,000 pounds.

In this instance, which illustrates a typical comparison between foundry casting and block forging, two thirds of the original weight of metal, or 24,000 pounds of critical steel, must be removed by various machining operations. Not only are the savings in steel of particular significance, but the elimination of costly sawing, chipping, drilling, turning and boring saves many man hours, permits delivery schedules to be met in far less time and releases skilled workers for other important duties.

The increasing difficulty in obtaining crankshaft billet steel and the already overburdened condition of available forging facilities have forced engine builders to recognize the advancements made in foundry techniques and practices. Cooper-Bessemer metallurgists and engineers were among the first in this group to intensify their exploration of the possibilities of cast crankshafts for their large lines of Diesel and gas engines.

According to L. F. Williams, Cooper-Bessemer executive, who has devoted considerable time to promoting experimental activities of the company, a series of exhaustive laboratory and running tests were conducted which proved that cast crankshafts could not only be produced successfully but that they were also eminently practical for many engine designs.

In order to compare the characteristics of the two types of shafts, a large fatigue machine capable of handling a complete multithrow crankshaft was constructed.

The first shaft selected for testing was a two-throw, cast shaft with 4½ inch diameter pins and journals; counterweights cast integral. It was used in a 7 inch by 9 inch two-cycle gas engine.

Results of these tests indicated the feasibility of replacing the steel forging with a Meehanite metal casting without modifying crankshaft dimensions for engines of this particular design. Twelve of these cast shafts were produced and assembled into engines going into the field during 1936, two years after Cooper-Bessemer acquired a license to process iron under Meehanite patents. The success of cast Meehanite crankshafts was forecast during the ensuing period as all shafts performed satisfactorily and none have broken.

Continuing their progressive development program along the same lines, the company designed an engine in 1937 which embodied a cast Meehanite shaft from its inception. The crankpins and journals of the shaft in this engine were 3¾ inches in diameter. Placed in operation in 1938, this engine and 210 thereafter, have had no crankshaft failures.

The success of these tests led to further undertakings on an even larger scale. A Diesel crankshaft 6 feet 6 inches in length with 8½ inch diameter pins and journals was next completed and passed a three-month test successfully. Due to the large production program then getting under way for the government, the capacity of the shop was taxed to the limit and this shaft did not go into production.

Despite boosted output of Cooper-Bessemer products, crankshaft experimental work proceeded with the testing of an 8 foot 9 inch gas-Diesel cast shaft with 9½ inch diameter pins and journals. The shaft, installed in an engine operating as a full

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Diesel, ran 40,000,000 reversals with high peak pressures. Although two pistons were caused to seize during the course of this test, the shaft was unimpaired at the conclusion of the test.

Even though results of every test made pointed to the practicability of generally adopting cast Meehanite for most types of their heavy-duty Diesel engines of moderate speed, the conservative attitude of Cooper-Bessemer, influenced by their 110 years of experience in engine building, limited production of this large, last-tested cast shaft to seven engines which were so equipped and placed in field service.

Subsequent experiments included a 5½ inch diameter cast shaft for a single cylinder, 8 inch by 10½ inch Diesel test unit. This also proved highly satisfactory when shaft inspection showed no undue wear or fractures after running 20,000,000 reversals at 900 revolutions per minute and 900 pounds peak pressure.

Just recently, the most spectacular test ever attempted by Cooper-Bessemer was completed, using a 6-throw shaft casting, 7 feet 8 inches long, with 5⅝ inch pins and journals to replace the forged shaft in an 8¾ inch by 11 inch Diesel.

After 20,000,000 revolutions at 900 revolutions per minute and 900 pounds peak pressure, no distress was apparent in the shaft.

During the next phase of the test, 20,000,000 additional revolutions were run at 900 revolutions per minute and 1000 pounds peak pressure. The bearings were removed, whiting applied, and the shaft was still found to be in perfect condition.

Engineers, in a determined effort to break down the engine, then operated it continuously in a peak critical test for six days. During the night of the sixth day, a change in operating efficiency indicated that the shaft had finally failed.

Although the engine was operated for 12 hours after all indications had pointed to a cracked shaft, a subsequent examination showed that this severe test, despite the additional running time, had caused the fracture to extend only half way through the shaft and the shaft still continued to function, attesting to the strength and high endurance of Meehanite Metal.

All tests outlined were conducted with crankshafts of "as cast" process A Meehanite, stress relieved but not heat treated.

In these tests, forged shafts of .45 carbon steel with a minimum tensile strength of 80,000 pounds per square inch were removed from assembled engines and replaced with cast Meehanite shafts. Pin and journal diameters and crankweb thicknesses were not changed.

In commenting on results of the tests, Williams said, "While a full interpretation of these and similar test results cannot be given at this time, we believe we have learned where, how, and why the type of material we have developed can be employed in crankshaft design with complete confidence and safety."

As a further result of the corporation's extensive and successful cast crankshaft development program, a number of the nation's leading machinery builders have turned to Cooper-Bessemer for production of at least part of their crankshaft requirements.

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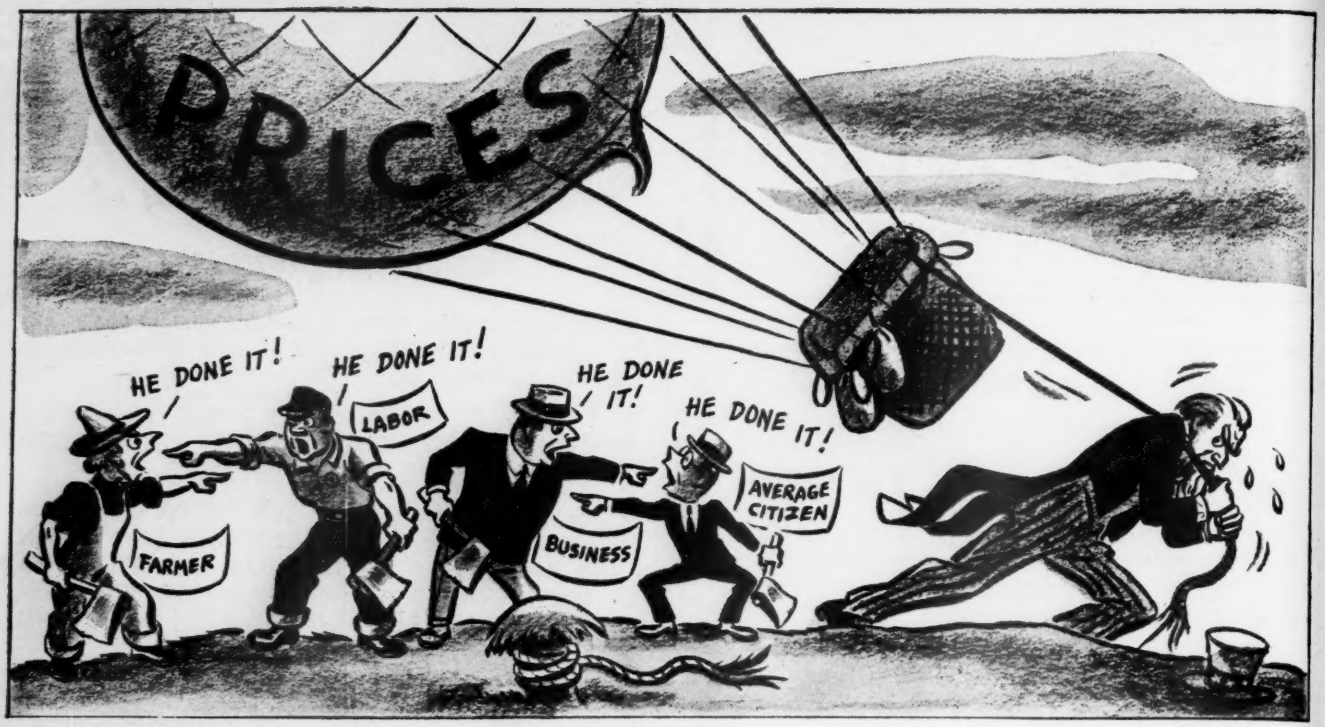

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